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An International Comparison of Uncertainty Expressions in Accounting Standards

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Key words: Accounting standards; Uncertainty expressions; Financial reporting; International harmonization

Abstract: *A review of accounting and selected general behavioral studies which have examined the interpretation of uncertainty expressions by individuals and groups indicates that these expressions are vaguely interpreted, with considerable variability within and among groups. This variability is more pronounced when expressions are used in context rather than as isolated terms. Most accounting studies have emphasized the uncertainty expressions used in accounting for contingent losses in accordance with SFAS No. 5, i.e., "probable", "reasonably possible" and "remote". To examine the extent of use of uncertainty expressions and the consistency of their use across countries, a survey of the accounting standards of New Zealand, Australia, the United States, Canada, the United Kingdom, Singapore, and the International Accounting Standards issued by the International Accounting Standards Committee is conducted. The survey found a large number of uncertainty expressions used in numerous accounting situations. Different uncertainty expressions are often used in similar accounting situations across the countries surveyed. Based on the review of the literature on the interpretation of uncertainty expressions, and the survey in this paper, the following recommendations are made: (1) standard-setters should clarify the implied probability levels associated with different uncertainty expressions; and (2) as part of the international harmonisation process, standard-setters should attempt to harmonize the use of uncertainty expressions across countries.*

Financial statements often include items where their ultimate outcome depends on the occurrence or non-occurrence of uncertain future events and/or transactions. Even the main elements of a statement of financial position – assets and liabilities – are often defined in terms of uncertain future economic benefits or sacrifices of such benefits.[1] Accounting standard-setting bodies in many countries and the International

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Accounting Standards Committee (IASC) have used a number of expressions to denote uncertainty. These expressions are often included as part of the criteria for determining how a particular item should be accounted for in accordance with the accounting standard. The most commonly cited examples of these expressions, and the expressions which have been researched most extensively in the accounting literature, are those used in the US standard on accounting for contingencies (SFAS No. 5). These expressions are: "remote," "reasonably possible," and "probable."

A number of accounting and general behavioral studies have empirically examined the interpretation by individuals and groups of some of the identified uncertainty expressions. Evidence from these studies indicates that the ambiguous nature of these expressions results in significant differences in interpretation by individuals and groups. More importantly, two types of studies suggest that such differences can have a substantive impact on financial reporting. First, accounting and other behavioral studies have in general found that where these expressions are used in *context*, variability in interpretation is even more pronounced than where these expressions are interpreted in isolation. Since uncertainty expressions in accounting are always used in context, these findings reinforce the concern that such expressions may introduce considerable scope for disagreement and misunderstanding among preparers, auditors, and users of financial statements. A second type of study has concluded that differences in interpretation of uncertainty expressions *affect reporting practices and auditors' decisions.*

In this paper, a survey of use of uncertainty expressions in accounting standards in New Zealand, Australia, the United States, the United Kingdom, Canada, Singapore, and in the International Accounting Standards (IAS) issued by the IAC is conducted. The major objective of this survey is to assess the extent of use of uncertainty expressions in accounting standards internationally and to determine whether accounting standards of different countries are consistent in their use of these expressions when dealing with the same accounting situations.

The survey's findings show that uncertainty expressions are widely used in accounting standards, with some variation in the extent of use of these expressions across countries, More interestingly, we found that for a particular item (e.g., contingencies), there is often a lack of consistency in the expression used by standards in different countries. Further, uncertainty expressions are sometimes used in a standard dealing with a particular reporting item although standards in other countries dealing with the same item do not use any such uncertainty expressions.

Existing empirical evidence on the interpretation of uncertainty expressions suggests that these differences, which may not have been anticipated by standard-setters, could result in different reporting practices in different countries. It would appear that improving the consistency in use of uncertainty expressions in accounting standards across different countries would be an important step towards improving international harmonization of accounting standards.

The remainder of this paper is structured as follows. The next section reviews accounting and general behavioral studies which have empirically examined the interpretation of uncertainty expressions. Following this, the results of the survey of uncertainty expressions in accounting standards of a number of countries are presented and discussed. The last section summarizes and discusses the major findings of our

study and makes recommendations on the use of uncertainty expressions in accounting standards.

Literature Review

A number of studies have examined the interpretations ascribed to uncertainty expressions, including the variability of interpretations of these expressions across individuals and groups, and the impact of context on these interpretations. Studies conducted in an accounting context have focused mainly on the interpretations of uncertainty terms used in SFAS No. 5, while a much more extensive group of studies in the general behavioral literature have examined a larger number of uncertainty expressions. This review will first examine accounting studies of uncertainty expressions. This will be followed by a more limited summary of selected studies in the general behavioral literature.

Accounting Studies

The topics covered by studies which have examined the interpretation of uncertainty expressions in accounting standards can be classified as follows:[2]

(1) how groups involved in the reporting process (e.g., managers, accountants, auditors, lawyers, and users) interpret uncertainty expressions;

(2) factors influencing the interpretation of these expressions;

(3) whether the interpretation of these expressions by individuals and groups are consistent with those implied by accounting and auditing standards, specifically SFAS No. 5 and SAS 58;[3] and

(4) whether differences in interpretations affect reporting practices and disclosure recommendations.

Interpretation of Uncertainty Expressions

A recent study by Reimers surveyed the interpretations of 30 common uncertainty expressions, including the expressions used in SFAS No. 5, by a sample of auditors, engineering managers, marketing managers, and graduate students.[4] For each expression, subjects were asked to provide numerical interpretations by assigning a probability between 0 and 100 percent that best described each uncertainty expression, and the numerical range implied by each expression. Reimers assessed the degree of agreement in interpretations among and within the different groups.

The results of Reimers' study indicate that many of the 30 uncertainty expressions were interpreted as synonyms by the subjects. Average probability responses and Kendall coefficients of concordance both showed that the ordering of the 30 expressions was similar for the four groups. Furthermore, there was a very high level of agreement within each subject group. Examining the three expressions used in SFAS No. 5 (i.e., "remote", "reasonably possible", and "probable"), the results

showed that the four groups interpreted the expressions in approximately the same way, with auditors' average interpretations being at the extreme (i.e., lowest average probability for the "remote" expression and the highest average probability for "probable" expression). While there was some disagreement among the groups surveyed, overall the level of agreement was judged to be encouraging.

One of the concerns raised by Reimers is that the probability ranges given by auditors for the three expressions in SFAS No. 5 indicate a range of uncertainty, between "remote" and "reasonably possible", which is not covered by the three expressions. She concluded that additional disclosure reforms are needed and suggested that one solution would be the addition of a category to cover the range that appears to be inadequately covered in SFAS No. 5. Another possibility would be for managers to provide a numerical range in conjunction with a verbal description.

The encouraging results of Reimers' study in terms of how consistently different probability expressions are interpreted by individuals and groups are not shared by other accounting studies. For example, Houghton and Walawski's survey of Australian auditors' interpretations of "probable", "virtually certain", and "beyond reasonable doubt", found that there was substantial variability and ambivalence in the quantification of the "probable" expression, in addition to the unclear difference between the "beyond any reasonable doubt" and "virtually certain" expressions.[5]

Davidson's survey of accountants' and students' interpretation of 21 probability expressions, including the expressions used in SFAS No. 5, found considerable overlap in the responses for the "reasonably possible" and "probable" ranges.[6]

Chesley conducted an extensive study of the interpretation of uncertainty expressions by undergraduate accounting students.[7] He found that a group of mature students studying in the same university courses had very wide ranges of interpretations of words commonly used for communicating uncertainty. He noted that only fairly definite words such as "no" or "even" had a high degree of group consistency. Chesley suggested that common words such as "probable" or "likely" will cause wide variations in interpretation and should not be used for specific communication of uncertainty in general situations sensitive to inaccurate interpretations.

Harrison and Tomassini examined auditors' interpretations of probability thresholds between "remote" and "reasonably possible", and between "reasonably possible" and "probable" expressions.[8] They found that there was little difference between the thresholds for various types of contingencies: litigation, expropriation, or warranty. However, there was significantly less consensus about the threshold between "remote" and "reasonably possible", than about the "reasonably possible" to "probable" threshold.

Brackner surveyed chief financial officers' and audit partners' interpretations of uncertainty expressions used in SFAS No. 5.[9] He found little consensus as to the meaning of the three uncertainty expressions.

Factors Influencing the Interpretation of Uncertainty Expressions

Several studies have found that certain factors may influence the way uncertainty expressions are interpreted. These factors include, *inter alia,* context and the materiality of the amount. For example, chief financial officers and audit partners surveyed by

Brackner gave diverse recommendations when asked to suggest accounting treatments for hypothetical cases which stated the amount and probability of loss.[10]

Schultz and Reckers examined individual versus group influence, and the impact of materiality, authoritative nature of the evaluation and communication channels, on the interpretation of the "reasonably possible" expression with respect to contingency loss disclosure.[11] They found that materiality of the loss contingency exerted a strong influence on interpretation of the probability cut-off point for the "reasonably possible" expression. In addition, whether the subjects were acting in an advisory role or decision role also had an impact on the probability cut-off point. Less variation in the interpretation was found after individuals were involved in group processing of the disclosure issue than before group processing.

Consistency with Accounting and Auditing Standards

There is some evidence that how uncertainty expressions are interpreted is not consistent with the process implied by accounting and auditing standards. Raghunandan et al. examined auditors' probability judgments in the presence of material loss contingencies for footnote disclosure in financial statements required by SFAS No. 5, and auditors' additional paragraph decisions for audit reports required by SAS No 58.[12] Consistent with the results of Schultz and Reckers,[13] they found that auditors' probability judgments for footnote disclosure is consistent with compensatory process; i.e., the greater the amount of a contingent loss, the lower is the probability judgment for footnote disclosure. These judgments are inconsistent with the sequential process implied by SFAS No. 5. They also found that the minimum probability at which an auditor would modify his report through an additional paragraph is significantly higher than the minimum probability value at which the auditor would require a footnote disclosure.

The Impact on Disclosure Recommendations and Reporting Practices

Several studies have concluded that the use of uncertainty terms in accounting standards may result in diverse reporting practices, particularly with respect to disclosure of litigation claims. Litigation disclosure involves judgments by accountants, assisted by advice received from lawyers. Decisions in respect of litigation disclosure would be more difficult if members of the two professions differ in their interpretations of uncertainty expressions. Harrison and Pearson's review of accounting standards and legal guidelines for lawyers in the United States with respect to definitions of uncertainty expressions suggests that the two professions in the United States provide guidelines which define uncertainty expressions differently.[14] Chesley and Weir compared the interpretation of uncertainty expressions used in the Canadian standard on contingencies by lawyers and accountants and found significant differences between the two groups.[15]

Jiambalvo and Wilner assessed auditors' interpretations of uncertainty terms specified in SFAS No. 5.[16] They found that probability ranges assigned to the words "remote", "reasonably possible" and "probable" varied across auditors. In examining auditors' judgments of contingent claim disclosure for four cases where the probability of an adverse outcome was varied, they found that disclosure recommendations

were consistent across auditors in only two out of the four cases. These recommendations were consistent with the subjects' own probability ranges, except in the case where the probability of an adverse outcome was low ($p = 0.1$). In this latter case, there was a tendency to recommend a conservative disclosure option. That is, their findings suggest that differences in interpretation of probability expressions can lead to different disclosure recommendations.

Fesler and Hagler examined how consistently the "reasonably possible" expression has been applied in practice in situations involving litigation contingencies and concluded that the non-disclosure of litigation contingencies was common.[17] They attributed the lack of adequate disclosure of such contingencies to the failure of SFAS No. 5 to specify an exact probability range for the "reasonably possible" expression. Fesler and Hagler argued that SFAS No. 5 left significant leeway for professional judgment in disclosure decisions.

Thompson et al. examined the adequacy of litigation disclosure of a sample of 100 companies.[18] They found such disclosures to be general, vague, and incomplete. These results were attributed partly to the subjective nature of uncertainty terms used by SFAS No. 5, which they argued may lead to two companies facing identical circumstances coming to different conclusions regarding the proper accounting treatment.

General Behavioral Literature

In addition to the accounting literature, the ambiguity of uncertainty expressions has been extensively examined in the general behavioral literature. Since there are several detailed reviews of these studies in the literature.[19] they will not be reviewed in detail in this paper. Overall, the findings from these studies highlight the considerable variability in interpretation of uncertainty expressions by groups and individuals other then those involved in the financial reporting process. In addition, the use of these expressions in particular contexts, rather than as isolated terms, tend to increase the variability in interpretation. For example, Brun and Teigen found large individual differences in interpretation of uncertainty expressions, and a tendency for individuals to underestimate the ambiguity of these expressions.[20] When expressions were embedded in context, they appeared to be even more ambiguous than when they were presented in isolation. Brun and Teigen also found lower variability in interpretation among a group of medical practitioners than among a group of parents, which suggests that groups from homogeneous backgrounds tend to give more similar interpretations compared to heterogeneous groups. There were also wide differences in variability for different contexts.

Budescu and Wallsten examined the interpretation of 19 probability phrases by a sample of faculty and graduate students in a university's psychology department.[21] They found that individuals have relatively stable rank ordering of phrases over time, but that different individuals have different rank orderings. However, not all phrases were found to be equally vague.

Beyth-Marom, using a sample of experts in a professional political forecasting organization, examined the interpretation of 37 probability expressions in isolation and 14 expressions in context.[22] She concluded that there was considerable

disagreement in the interpretation of most verbal probability expressions and that the variability is even higher in context.

An International Survey of Use of Uncertainty Expressions in Accounting Standards

To examine the extent of use of uncertainty expressions, we surveyed accounting standards in New Zealand, Australia, the United Kingdom, the United States, Canada, Singapore, and those issued by the IASC. We first identified all the situations in which uncertainty expressions have been used in NZ accounting standards. We then surveyed the accounting standards of the other countries[23] for uncertainty expressions used for the same situations identified in NZ standards. Table 1 presents the results of this survey.

The table shows that contingencies is one of many situations where accounting standards have used uncertainty expressions. "Remote", "reasonably possible", and "probable", the terms which have received greatest emphasis in the accounting literature, are only a small subset of the many uncertainty terms used in accounting standards. Other terms used include: (1) beyond any reasonable doubt; (2) expected with reasonable certainty; (3) expected; (4) highly improbable; (5) might; (6) more likely than not; (7) not expected; (8) not reasonably expected; (9) possibility; (10) possible; (11) reasonable assurance; (12) reasonably anticipated; (13) reasonable expectation; (14) reasonable possibility; (15) reasonable probability; (16) reasonably certain; (17) reasonably predictable; (18) reasonably regarded as assured; (19) reasonable to assume; (20) likely; (21) unlikely; and (22) virtual certainty.

Accounting standards in New Zealand use the expression "expected" more often than standards in other countries. The term "expected" is frequently qualified by using the term "reasonably" as in "reasonably expected" or "expected with reasonable certainty". Overall we found more prevalent use of uncertainty expressions in NZ standards than standards of other countries, with "expected" and "probable" being the most common expressions.[24] An examination of the results of the survey reveals an inconsistent use of these expressions among standards of different countries.

Inconsistent Use of Uncertainty Expressions Among Standards of Different Countries

The results of the survey indicate that standards of different countries sometimes use different expressions for similar situations. For example, contingent losses are accrued when "expected" in New Zealand and the United Kingdom, "likely" in Canada and when "probable" in the United States, Singapore and the IAS. The uncertainty expression "remote", has been used by most standards except in Canada, where the expression "unlikely" is used.[25]

Contingent gains are disclosed in notes when they are "probable" in New Zealand, United Kingdom, Singapore and IAS, and "likely" in Canada, while SFAS No. 5 states that adequate disclosure shall be made of contingencies that "might" result in gains.[26]

Table 1. Comparative analysis of use of uncertainty (probability) expressions in accounting standards[a]

Accounting situations/ Uncertainty expressions used	NZ	Australia
1. Depreciable assets		
a. The probability that depreciable assets would be useful for more than one accounting period	Expected SSAP 3	Expected ASRB 1021
b. The probability in estimating the useful life of depreciable assets	Expected SSAP 3	Expected ASRB 1021
2. Inventory		
a. The probability that future revenue would be sufficient to cover cost of inventory incurred	Reasonable expectation SSAP 4	NA
b. The probability of realizing the net realizable value in valuing inventory at the lower of cost or net realizable value	Expected	Expected AAS 2
3. Materiality The probability that the effect of change in accounting policy impacts on results of future periods in determining materiality	Expected SSAP 6	Likely ASRB 1001
4. Extraordinary items The probability of frequency and regularity of recurrence of items to be classified as extraordinary items	Not expected SSAP 7	NA[5]
5. Goodwill The probability that future periods would benefit from goodwill	Expected SSAP 8	Expected and probable[6] ASRB 1013
6. Warrants The probability of exercising warrants for consideration as part of the investor's interest in the investee in determining the status of the investor	Probable	NA
7. Current assets The probability of realizing current assets in cash or sale or consumption within one year of balance date	Expected SSAP 9	NA
8. Current liabilities The probability that obligations could be required to be met within one year of balance date in classifying liabilities as current	Expected SSAP 9	NA
9. Long-term liabilities The probability that obligations will not be required to be met within one year of balance date in classifying long-term liabilities	Expected SSAP 9	NA
10. Allocation of expenditures in accordance with the prudence concept The probability of the relationship between expenditure incurred and future benefits for capitalization of expenditure in accordance with the prudence concept	Reasonably certain SSAP 11	NA
11. Deferral of expenditures The probability that expenditures incurred would produce identifiable benefits in determining the extent of deferral of expenditures	Expected with reasonable certainty SSAP 11	NA

Canada	International	US	UK	Singapore
Intention CICA 3060	Expected IAS 4	Expected ARB 43 Ch 9C	Intended SSAP 12	Expected SAS 4
Expected CICA 3060	Expected IAS 4	Expected SFAS No. 96	Expected SSAP 12	Expected SAS 4
NA[1]	NA[2]	Expected ARB 43 Ch 4	Reasonable expectation SSAP 9	NA
NA	Expected IAS2	NA[3]	NA[4]	Expected SAS2
NA	NA	Reasonably certain APB 20	NA	NA
Not expected CICA 3480	Not expected IAS 8	Not reasonably expected APB 30	Not expected SSAP 6	Not expected SAS8
NA[7]	NA[8]	Expected FIN 9	NA[9]	NA
NA	NA	Possible[10] APB 18	NA	NA
NA[11]	Expected IAS 13	Reasonably expected ARB 43 Ch 3A	NA	Expected SAS 13
NA	Expected IAS 13	Reasonably expected ARB 43 Ch 3A	NA	Expected SAS 13
NA	Reasonable assurance IAS 13	No uncertainty expression used "scheduled" SFAS No. 6	NA	Reasonable assurance SAS 13
NA	Probable IASC Framework	Expected SFAC 5	Reasonable certainty SSAP 13	Probable RAP 1A
NA	NA	NA	NA	NA

continued...

Table 1. Continued

Accounting situations/ Uncertainty expressions used	NZ	Australia
12. Flow of economic benefits from the tax system The probability that economic benefits would flow to or from the entity through the tax system as a justification for adopting the liability method in accounting for inter-period tax allocation	Expected SSAP 12	NA
13. The partial basis The probability of occurrence of similar timing differences to be considered in the application of the partial basis	Expected SSAP 12	NA
14. Exclusion of timing differences The probability that timing differences excluded in accordance with partial basis will continue in the future	Reasonable probability SSAP 12	NA
15. Retaining a debit balance in deferred tax account The probability of recovery of a debit balance for recognition as an asset (future tax benefits)	Virtual certainty which requires assurance beyond reasonable doubt SSAP 12	Assured beyond any reasonable doubt ASRB 1020
16. Tax effect of asset revaluation The probability that tax effect would crystallise through the realization by sale in the foreseeable future of an asset which has been revalued	Expected SSAP 12	NA
17. Enactment of legislation which results in change in tax rate The probability of enactment of an announced legislation stating a change in tax rate and which would lead to the use of the new tax rate in accounting for tax effects	Reasonable certainty SSAP 12	NA[17]
18. Future benefits from R & D activities The probability of realizing future benefits from research and development expenditures for the allocation of such expenditures	Expected SSAP 13	Expected beyond any reasonable doubt ASRB 1011
19. Resources available to complete a project which would lead to deferral of development costs The probability that adequate resources are available to complete the project and market the product or process as one of the criteria for deferral of development expenditures	Reasonably expected SSAP 13	NA
20. Recovery of development cost deferred The probability of recovery of deferred development costs from related future benefits	Reasonably be expected SSAP 13	NA
21. Range of uncertainty The range of uncertainty expressed for contingencies	From probable to remote SSAP 15	NA[23]

Canada	International	US	UK	Singapore
Expected[12] CICA 3470	Expected IAS 12	Expected SFAS No. 109	Probable SSAP 15	Expected SAS 12
NA	Likely IAS 12	NA[13]	Probable SSAP 15	Likely SAS 12
NA	Reasonable evidence IAS 12	NA	Probable SSAP 15	Reasonable evidence SAS 12
Virtual certainty CICA 3470	Assurance beyond any reasonable doubt IAS 12	More likely than not [14] SFAS No. 109	Expected SSAP 15	Assurance beyond resonable doubt SAS 12
NA[15]	NA[16]	NA	Probable SSAP 15	NA
NA	NA[18]	NA[19]	NA[20]	NA[21]
Expected CICA 3450	Expected IAS 9	NA[22]	Expected SSAP 13 para 8	Expected SAS 9
Expected CICA 3450	Reasonably expected IAS 9	NA	Reasonably expected SSAP 13	Reasonably expected SAS 9
Reasonably be regarded as assured CICA 3450	Reasonably be expected IAS 9	NA	Expected SSAP 13	Reasonably expected SAS 9
Likely, unlikely and indeterminable CICA 3290	From probable to remote IAS 10	From probable to remote with reasonably possible in between SFAS No. 5	NA	Probable to remote SAS 10

continued...

Table 1. Continued

Accounting situations/ Uncertainty expressions used	NZ	Australia
22. *The outcome of contingent loss*		
The probability of the outcome of a loss contingency where it would be accrued	Expected SSAP 15	NA
23. *Contingent loss measured by best estimate*		
The probability of the outcome of contingent loss which is not accrued but has to be disclosed	Possibility SSAP 15	NA
24. *Disclosure of contingent gains*		
The probability of realization of a contingent gain for disclosure	Probable SSAP 15	NA
25. *Lease cancellation*		
a. The probability of occurrence of contingency which leads to cancellation of lease	Remote SSAP 18	Remote ASRB 1008
b. The probability of continuation of lease upon payment of an additional amount	Reasonably certain SSAP 18	Expected ASRB 1008
26. *Exercising lease options*		
The probability that the lessee would exercise an option to continue to lease an asset, in determining the lease term at the inception of a lease	Reasonably certain SSAP 18	Reasonably assured
27. *Finance lease*		
a The probability of collectability of the minimum lease payments in classifying leases as finance leases	Reasonably predictable SSAP 18	NA
b. The probability that the amount of unreimbursable costs yet to be incurred by the lessor under the lease can be ascertained	Reasonable certainty SSAP 18	NA
28. *Hedging of streams*		
The probability that future income (expense) stream will accumulate (over the next 12 months in NZ) to an amount at least equal to the amount of a foreign liability (asset) being hedged for designation as hedge	Reasonable to assume SSAP 21	Expected ASRB 1012
29. *Extinguishment of debt*		
The probability that the debtor would not be required to assume again the primary obligation for the debt servicing requirements or to satisfy any guarantee, indemnity or the like relating to such requirements, for a debt to be accounted for as having been extinguished	Virtually certain SSAP 26	Highly improbable ASRB 1014
30. *Definition of net current value for fixed assets*		
The probability of realizing the price for which an asset might be sold at the operative date and the probability of incurring the costs of disposal in determining net current value	Reasonably be expected and reasonably be anticipated SSAP 28	NA
31. *Definition of recoverable amount*		
In determining the recoverable amount of fixed assets, the probability that the amount of the net cash inflows would arise	Expected SSAP 28	Expected ASRB 1010

Canada	International	US	UK	Singapore
Likely CICA 3290	Probable IAS 10	Probable SFAS No. 5	Probable SSAP 18	Probable SAS 10
NA[24]	Possibility IAS 10	Reasonable possibility SFAS No. 5	Not remote SSAP 18	Possibility SAS 10
Likely CICA 3290	Probable IAS 10	Might[25]	Probable SSAP 18	Probable SAS 10
Unlikely CICA 3065	Remote IAS 17	NA[26]	NA	Remote SAS 15
Reasonably certain CICA 3065	Reasonably certain IAS 17	NA[27]	NA	Reasonably certain SAS 15
Reasonably assured CICA 3065	Reasonably certain IAS 17	Reasonably assured SFAS No. 13	Reasonably certain SSAP 21	Reasonably certain SAS 15
NA	NA	NA[28]	NA	NA
NA	NA	No important uncertainties SFAS No. 13	NA	NA
Reasonable assurance CICA 1650	NA	NA[29] SFAS No. 52	Probably SSAP 20	NA
NA	NA	Probable SFAS No. 76	NA	NA
NA	NA	NA[30]	NA	NA
NA[31]	NA[32]	NA	NA[33]	NA

continued...

Table 1. Continued

Accounting situations/ Uncertainty expressions used	NZ	Australia
32. Capitalization of expenditures which increase service potential In determining the expenditures to be capitalized, the probability that the expenditures would increase the service potential of a fixed asset	Expected SSAP 28	NA

[a]NA(not available) means that a comparable accounting situation has not been found.
[1]CICA 3030 (Canada) requires that inventories be valued at cost with no adjustments for the decline in market value.
[2]IAS-2 avoids the use of an uncertainty expression by stating "when the cost is not realizable."
[3]ARB 3 Ch. 4 (US) defines market value of inventory as the current replacement cost rather than net realizable value. In departing from the historical cost, the standard requires evidence that the utility is less than historical cost.
[4]SSAP 9 (UK) uses the term "actual" or "estimated" selling price without an uncertainty expression.
[5]ASRB 1018 (Australia) uses no probability expression in defining extraordinary items. It states that these items are not of recurring nature.
[6]ASRB 1013 (Australia) requires that goodwill be amortized over periods which benefits are "expected" to arise (para. 35); however, it requires reviewing the un-amortized balance of goodwill at each balance date and write-off of this balance to the extent that future benefits are no longer "probable" (para. 36).
[7]CICA 1508 (Canada) avoids the use of uncertainty expressions; it requires that the amortization of goodwill be made over "estimated" life.
[8]IAS-22 uses the term "over its useful life" and thus avoids the use of uncertainty expression.
[9]SSAP 22 (UK) avoids the use of uncertainty expression.
[10]APB 18 (US) requires disclosure only.
[11]CICA 1510 avoids use of uncertainty expressions; it uses the term "ordinarily realizable."
[12]CICA 3470 (Canada) requires the use of the deferral method.
[13]SFAS No. 109 does not permit the use of the partial basis; it requires that all timing differences should be included.
[14]SFAS No. 109 (US) requires the total deferred tax asset balance to be reduced by a valuation allowance if it is more likely than not that some portion or all of the asset will not be be realized.
[15]CICA 3060 (Canada) does not permit the revaluation of fixed assets.
[16]IAS-12 requires the consideration of all tax effects related to asset revaluations.
[17]ASRB 1020 (Australia) does not require the assessment of probability of entactment of legislation but refers to "whenever there is change in the income tax rate."
[18]IAS-12 requires deferred tax liability to be adjusted for actual tax rate changes.
[19]SFAS No. 109 (US) requires the adjustment be made for the effect of change in tax laws or rates when it has been enacted. Therefore no anticipated changes would be considered. This requirement may reflect the legislative process in the US with the separation between the

For the extinguishment of debt, the NZ standard uses "virtually certain" to denote the probability that the debtor will not be required to assume responsibility for the debt, while in the United States the level of uncertainty is "probable". The Australian standard uses a virtually mirror-image term of "highly improbable" to specify the level of uncertainty that the debtor will be required to assume the responsibility for the debt. Lichtenstein and Newman examined the interpretation of mirror-image pairs and found asymmetry in their interpretations.[27] This asymmetry suggests that the uncertainty expression in the statement "it is probable that the debtor will not be required to assume responsibility for the debt" could be interpreted at a different probability level from the statement "it is improbable that the debtor will be required to assume responsibility for the debt."

The recognition of a debit balance in a deferred tax account as an asset is permitted when the probability of recovery is "expected" in the United Kingdom, "virtually certain" in the standards of New Zealand and Canada, and "assurance beyond reasonable doubt" in Australia, Singapore, and the in IAS. In the United States until recently, SFAS No. 96 did not permit the recognition of a debit balance regardless of the level of probability. The recently released SFAS No. 109 permits the recognition of deferred tax assets with the establishment of a revaluation allowance if it is "more likely than not" that some or all assets will not be realized. This is the only standard that we are aware of where the probability level has been specified in

Canada	International	US	UK	Singapore
NA[34]	NA[35]	NA	Reasonably be expected SSAP 2	NA

executive and legislative branches of the government where the likelihood of enactment cannot be determined until approved by Congress. In NZ, there is no such separation, therefore the government through its majority in parliament has greater powers. Once a legislation is proposed it is possible to predict the likelihood of enactment.
[20]SSAP 15 (UK) requires the deferred tax provision to be calculated on the basis of actual tax rate.
[21]SAS 12 (Singapore) requires that information indicates that another tax rate would be appropriate.
[22]SFAS No. 2 (US) does not permit the deferral of development costs although the deferral issue has been examined in the discussion section of the standard.
[23]Australia is the only country surveyed in this study without a standard dealing specifically with contingencies.
[24]CICA 3290 (Canada) does not use an uncertainty expression. It states that "there exists an exposure to loss in excess of the amount accrued."
[25]SFAS No. 5 (para. 17) (US) requires that adequate disclosure shall be made of contingencies that might result in gains, but care should be exercised to avoid misleading implications as to the likelihood of realization.
[26]The superseded SFAS No. 13 para. 5 (f) (US) used the term "remote."
[27]The superseded SFAS No. 13 para. 5 (f) (US) used the term "reasonably assured."
[28]The superseded SFAS No. 13 para. 8 (f) (US) stated the term "reasonably predictable."
[29]SFAS No. 52 para. 21 (US) avoids using a probability expression; however, it states that the foreign currency, *inter alia*, is effective as a hedge.
[30]APB 6 para. 17 (US) does not permit the write-up of fixed assets.
[31]CICA 3060 (Canada) uses the term "estimated."
[32]IAS-16 uses the term "can recover" for recoverable amounts without specifying an uncertainty expression.
[33]SSAP 12 (UK) avoids using an uncertainty expression in defining recoverable amount.
[34]CICA 3060 (Canada) uses the term "considered."
[35]IAS-16 does not use an uncertainty expression.

determining the meaning of an uncertainty expression. SFAS No. 109 defines the term "more likely than not" as a likelihood of more than 50 percent.[28]

These differences in use of uncertainty expressions across standards of different countries may result in different reporting practices. Reimers' survey of interpretations of some of these expressions by groups involved in the reporting process found that these groups assigned different probability levels for these expressions.[29] For example, she found that the expressions "almost certain", "expected", "likely" and "probable" fell into different clusters, and that engineering managers assigned mean probabilities of 93.3, 83.6, 75.3, and 73.7, respectively, for the four expressions.

Some standards use uncertainty expressions for some situations while others do not use such expressions for the same situations. For example, in determining useful life of fixed assets the term "expected" is used in New Zealand, Australia, Canada, Singapore and the IAS while in the UK the term "intended" is used. Net realizable value is defined as "expected" in some countries while "estimated" in others. In defining the recoverable amount of fixed assets, the NZ standard (SSAP 28) uses the term "expected" whereas IAS and the Singapore standard do not use any uncertainty expressions in their definition of recoverable amount. Whether items are of a recurring nature in deciding their classification as extraordinary items is stated as "not expected" in New Zealand, Canada, the United Kingdom, IAS and Singapore while "not reasonably expected" in the United States. The Australian standard (ASRB 1018)

does not use any probability expression; it merely states that items "are not of recurring nature". Where a standard does not use an uncertainty expression in dealing with an uncertain situation, it could be interpreted that the standard may be requiring complete certainty in accounting for that situation.

Summary and Discussion

Our survey of the use of uncertainty expressions in the accounting standards of New Zealand, Australia, the United Kingdom, the United States, Canada, Singapore, and the IAS revealed that uncertainty expressions are used in a number of accounting situations. Standard-setters do not in general specify the probabilities which are to be ascribed to different expressions. Given that accounting studies and other general behavioral studies have found that the same expressions are often ranked differently by different individuals and groups, the use of these expressions is likely to lead to different disclosure recommendations and reporting practices. There is evidence in the literature, albeit limited, which supports this proposition.

The survey also revealed that there is inconsistent use of uncertainty expressions among the standards of different countries. That is, different expressions used in standards of different countries for the same situations often do not appear to represent similar probability levels. The difficulty in interpreting particular uncertainty expressions, coupled with the use of different expressions for the same situations across different countries, can result in wide divergence in reporting practices and disclosure recommendations across countries.

We did not investigate the reasons for the differences in expressions across countries. It could be that these differences reflect institutional and cultural dissimilarities. If so, it could be argued that even if differences in expressions result in different reporting practices and disclosure recommendations, they are not necessarily problematic. However, we believe that the differences arise from standard-setters being unaware of the potential impact of using different uncertainty expressions. Therefore, in adapting the accounting standard of another country, uncertainty expressions may be substituted which may change the intended meaning of the standard.[30] This interpretation is reinforced by our peripheral finding that uncertainty expressions sometimes appear to be used interchangeably within the same standard in some countries – a finding which cannot be explained by institutional and cultural differences.[31] For example, the Australian standard on goodwill (ASRB 1013) requires the amortization of goodwill over periods which the benefits represented by goodwill are "expected". It also requires the review of the unamortized amount of goodwill at each balance sheet date and the immediate write-off to the extent that future benefits are no longer "probable". The failure of standard-setters in general to define uncertainty expressions also suggests that they are unaware of the potential problems in interpreting uncertainty expressions.

Based on our survey of the use of uncertainty expressions and on our review of the empirical evidence on the interpretation of uncertainty expressions, we make the following recommendations:

(1) Standard-setters should consider clarifying the implied probability levels associated with different uncertainty expressions used, for example, as part of a statement of concepts. Such an exercise may also lead standard-setters to reconsider the expressions used, eliminate inconsistencies, and possibly reduce the number of expressions used.[32]

(2) As part of any international harmonization process, standard-setters should attempt to harmonize the use of uncertainty expressions across countries.

We acknowledge that different individuals, faced with the same event, may assign different probabilities to the likelihood of an event occurring, even if they are faced with the same information set. Therefore, even if there is consensus on the probability level associated with an uncertainty expression, differences in disclosure recommendations and practices may remain. However, clarifying uncertainty expressions may reduce differences caused by how probabilities are translated into recommendations and practices through the interpretation of uncertainty expressions. This could result in improved financial reporting, for example, through reduced disagreement between auditors and preparers, improved communication between preparers, auditors, and users, and more comparable and consistent reporting practices.

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References and Notes

1. In the United States, Statement of Financial Accounting Concepts No. 6, "Elements of Financial Statements" (1985) defines assets as "probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events". The statement also defines liabilities as "probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions". Statement of Accounting Concepts No. 4 and Statement of Concepts for General Purpose Financial Reporting in New Zealand in Australia provide similar definitions. Similar definitions are also provided by IASC's and Singapore's RAP 1A "Framework for the Presentation of Financial Statements", except that they use the term "expected" rather than "probable".
2. These studies have emphasized the uncertainty terms specified in SFAS No. 5: remote, reasonably possible, and probable. This standard requires the accrual of a contingent loss when it is probable and can be reasonably estimated. If the loss cannot be reasonably estimated and the probability is at least reasonably possible, disclosure in notes to financial statements is required. Disclosure in notes to financial statements is also required if a reasonable estimate of the loss can be made and the probability is reasonably possible. There are no requirements for reporting contingent losses when the probability is remote.
3. SAS 58 requires auditors dealing with contingent losses to add an explanatory paragraph in their reports where a contingent loss is probable and has not been accrued in the financial statements because no reasonable estimate could be made. The standard also requires auditors to consider adding explanatory paragraphs in two situations: (i) where, in accordance with SFAS No. 5, only a portion of a probable loss is accrued; and (ii) where the contingent loss is reasonably possible and has been disclosed in a note to the financial statements in accordance with SFAS No. 5. In their consideration of whether to add an explanatory paragraph, SAS 58 requires auditors to consider the magnitude by which the amount of reasonably possible loss exceeds the auditor's judgment of materiality and whether the likelihood of occurrence is closer to remote or probable. The standard recommends that an additional explanatory paragraph be added in the auditor's report as the amount of reasonably possible loss becomes larger or the likelihood of occurrence increases.

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28. It could be argued that the use of uncertainty expressions in accounting standards dealing with the recognition of future tax benefits as assets in some countries' standards is inconsistent with the respective countries' adopted or proposed conceptual frameworks. In Australia, Statement of Accounting Concepts No. 4 indicates that the realization of future benefits should be probable before an asset is recognized, whereas the recognition of future tax benefits under AASB 1020 is permitted only where it is beyond any reasonable doubt that the benefits will be realized. Similar inconsistency is evident in NZ standards. The proposed conceptual framework on financial reporting (ED-60) defines assets as "expected" whereas future tax benefits are recognized as assets where it is "beyond any reasonable doubt." Similar inconsistency also exists in the IAS and Singapore standards. In the United States, it appears that the recognition of future tax benefits as an asset requires a lower certainty level than "probable." SFAS No. 109 allows the recognition of future tax benefits when "more likely than not" while in SFAC No. 6 assets should be recognized when "probable."
29. Reimers, op. cit., clustered uncertainty expressions which were interpreted as synonymous by respondents by identifying natural breaks in the numerical evaluations assigned.
30. A good example of this may be the NZ standard on accounting for contingencies (SSAP 15). This standard is broadly consistent with the US standard, including the expression of the range of outcomes

associated with an uncertain future event as probable to remote. However, it then requires the accrual of a contingent loss if it is *expected* that a loss has occurred and if the loss can be reasonably estimated. There is no clarification in the standard as to how "expected" relates to the range between probable and remote.

31. This finding was not discussed earlier in the paper because the present study is concerned with differences in uncertainty expressions across countries, rather than the interchangeable use of such expressions within the accounting standards of particular countries.
32. A more radical direction would be to use numerical probability ranges, rather than qualitative expressions, to denote the levels of uncertainty.

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The Implementation of SFAS 52: Did the Functional Currency Approach Prevail?

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Key words: SFAS 52; Functional currency; Foreign environments; Translation

Abstract: *This paper examines whether the foreign environments actually influenced the functional currency determination process of SFAS 52. The results show both a regional effect and a differential effect across regions. Thus, in this unique case where the implementation of a domestic accounting standard relies pivotally on the perception of foreign environments, our results suggest that this process is working as the assenters of SFAS 52 expected. Based on our analysis, differences in the geographical regions where US based multinationals operate are properly reflected in the functional currency decisions and do support the functional currency in SFAS 52. Our results do not show support for the US dollar approach to currency translation.*

In December 1981, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 52 (SFAS 52), Foreign Currency Translation, which superseded Statement No. 8 (SFAS 8). SFAS 8 required firms to use the temporal method of translation and report translation gains/losses in income. SFAS 8 was broadly criticized for: (1) causing wide fluctuations in reported net income and, by that, triggering market price gyrations of corporate stock; and (2) not considering the effect that differing economic environments had upon translation, particularly of balance sheet accounts. SFAS 8 adopted what could be considered as a "dollar approach" to translation.

In SFAS 52, the FASB introduced several changes and innovations to overcome the deficiencies in SFAS 8. The most important innovation is the functional currency concept. The most important change was the adoption of a "functional currency approach" to translation. The functional currency is the currency of the foreign entity's primary operating environment. If the local currency is determined to be the functional currency, then the current exchange rate (i.e., the exchange rate at the

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translation date) is used to translate the assets and liabilities on the foreign balance sheet into US dollars. Any resulting translation adjustment (debit or credit) is taken to a cumulative translation adjustment account in stockholders' equity. If the US dollar is decided to be the functional currency, or if the foreign entity is located in a "highly inflationary economy", then SFAS 8 rules still apply, i.e. the temporal method is used with translation gains/losses taken to income.

The foreign economic environment places constraints upon a subsidiary operating within it and influences the rate of inflation and currency fluctuations; under SFAS 52 these affect the translation rules for the foreign subsidiary's operations, whereas under SFAS 8 they did not. Thus, through the functional currency concept, SFAS attempts to consider differences in the nature of foreign operation (including the external environment) in establishing translation rules. It is interesting to note that SFAS is a unique case where the application of a domestic accounting standard relies pivotally on the perception of foreign environments.

To provide guidance to management, the FASB listed six salient economic factors to be considered both individually and collectively in determining the functional currency for a particular foreign entity [see SFAS 52, Appendix A]. To implement SFAS 52, firms must develop a weighting scheme for those factors, but the FASB specifies no guidance as to the weights that should be attached.

In principle, the functional currency is a matter of fact. In practice, the management of multinational corporations (MNCs) must often exercise judgment in making the functional currency determination. Since an MNC may have extensive worldwide operations, the functional currency determination process may be both time consuming and costly. Also, the application of management judgment may yield dissimilar results for firms whose circumstances are essentially similar. This concern was raised by those members of the FASB dissenting on SFAS 52 [see SFAS 52 between paras. 35 and 39]. The dissenters appear to believe in the superiority of the US dollar approach.

The objective of this study is to examine whether the foreign environment actually influenced the determination of the functional currency. It builds on previous research and uses external, environmental factors to evaluate the initial functional currency decisions reported by management in the implementation of SFAS 52.

This study provides a deeper understanding of the functional currency determination process because of the disagreement over whether the functional currency approach is better than the US dollar approach. If different firms with similar subsidiaries in similar foreign environments have little difficulty applying SFAS 52's salient economic factors in determining the functional currency, this would lend support to the FASB assenters' point of view that the functional currency approach would result in a translated functional currency income statement which would provide US investors and creditors with the information necessary to assess future cash flows. If different firms with similar subsidiaries in similar foreign environments experience difficulty in applying the salient economic factors, or apply them inconsistently, or if the same firms with similar subsidiaries in different foreign environments experience difficulty in determining the appropriate functional currency, that would imply that the dissenters' argument in support of a US dollar approach (similar to that of SFAS 8) as providing more meaningful cash flow information needs to be reconsidered.

The paper is organized as follows. The research problem is fully developed in section two. The research model is delineated in section three. The data are described in section four. Hypotheses are developed and the methodology is described in section five. The results of the analysis and a discussion of their implications are presented in section six. The study is summarized and conclusions are offered in section seven.

Development of the Research Problem

To guide management in the determination of the functional currency, the FASB specified both salient economic factors (or indicators) and entity characteristics to be used. In Appendix A, SFAS 52 specifies six "salient economic factors" to guide management in the determination of the functional currency. These are:

(1) Cash flow indicators:
  (a) denomination of cash flows;
  (b) impact on parent's cash flows.
(2) Sales price indicators:
  (a) responsiveness of sales price to changes in exchange rates;
  (b) the market where price is determined.
(3) Sales market indicator: location of primary sales market.
(4) Expense indicator: location of primary input market.
(5) Financial indicators:
  (a) denomination of financing;
  (b) sufficiency of cash flows to meet obligations.
(6) Intercompany transactions and arrangement indicators:
  (a) volume;
  (b) extent of interrelationships.

SFAS 52 also describes entity characteristics that would indicate whether the foreign currency or the US dollar is the functional currency. The following characteristics are indicative of a foreign currency functional currency entity: (1) relatively self-contained and integrated into the local economy; (2) not dependent day-to-day upon the economic environment of the parent's functional currency; (3) primarily generates and expends local currency; (4) may reinvest or convert to the parent local net cash flows; and (5) experiences a low volume of intercompany transactions [para. 80].

On the other hand, a US dollar functional currency entity would be indicated by the following characteristics: (1) a direct and integral part of the parent's operations; (2) assets acquired from the parent or by spending dollars; (3) financing obtained primarily from the parent or from dollar sources; (4) dependent day-to-day upon the economic environment of the parent's functional currency; (5) cash flows related to individual assets and liabilities impact directly on the parent's cash flows in the parent's currency and are readily available for remittance to the parent; and (6) has a high volume of intercompany transactions [para. 81]. The FASB recognized that

some foreign operations would not fit neatly into one of these two broad classes. In those instances, management's judgment would be required to select the functional currency [para. 82].

Countries in which US MNCs have operations differ in many important ways which could affect the nature of foreign entity operations. Differences in risk, e.g. foreign exchange risk, government intervention risk, and risk of loss in purchasing power, could differentially affect the financing and operating strategies of US MNCs in foreign countries. Market differences among countries, e.g. labor, input factors, and sales markets, can affect the location of production and sales and thereby the nature of the operation in a specific country. These differences are constituent elements of the environments in which US MNCs have foreign operations. For instance, an economic environment which is unstable is more risky, from the US parent's perspective, than a more stable one. As such, the US parent's objective might be to repatriate funds quickly, rather than reinvest large amounts in the local economy to secure future inputs for production. For SFAS 52 to be an effective translation standard, the salient economic factors must capture either directly or indirectly these differences.

Individual countries may be grouped for purposes of analysis into different geographic regions. While there may be significant differences between countries within a given region, there are likely also to be similarities which make such groupings meaningful. Among such similarities would be common language(s), religion, level of economic interaction and development, legal systems, and similar cultural traditions.

The impact of the environment upon a firm and upon the accounting standards of individual countries has been the subject of many studies. In their pioneering work, Farmer and Richman (1966) developed a model of the external constraints which may have a direct impact upon internal firm management and productive efficiency in a given foreign country. The four major categories of constraints which they identified are: educational, sociological, political and legal, and economic. The basic idea that they advance is that "if the environment is different, firms will be operated and managed differently, with this leading to different efficiency results between similar firms in different environments" [p 80].

Frank (1979) examined the impact of economic and social environmental factors upon the development of accounting concepts and practices within and between 38 non-communist countries. Frank concluded that the cultural and economic environment within a country influences its accounting principles and reporting practices, and that similar patterns of accounting principles and reporting practices can be identified in four different country groups: (1) British Commonwealth countries; (2) Latin-American countries; (3) Continental European countries; and (4) US-influenced countries.

Alkafaji (1987) suggested that the disappointing progress in harmonization of international accounting standards might be attributed, in part, to the apparent contradiction between the global harmonization efforts and the premise that individual country accounting practices are a product of the political, social, and economic environment. Alkafaji concluded that countries which share similar accounting practices tend to have similar politico-socioeconomic environments, and vice versa,

which permitted him to infer that accounting practices and standards are significantly influenced by and associated with their external environments.

Thus, various studies have shown that the external environment impacts both the management and operation of similar firms within different environments, and that the external environment impacts upon accounting standards both of individual countries and groups of countries.

These studies, however, have not examined whether the environments of a foreign country or region affect the application of an accounting standard in *another* country. SFAS 52, to be implemented as intended, depends upon US MNC managements' perceptual ability to differentiate between different functional currency environments. SFAS 52 guidelines are intended to capture the essence of a foreign entity's environment and its resultant impact upon that entity's operations.

MNCs have foreign operations in many different countries and within many different geographic regions. Within a given geographic region, however, US MNCs may concentrate their investments within a few countries. While it might be possible to study the functional currency determination on an individual company and individual country basis, meaningful comparison might prove to be extremely difficult. However, one may divide the world into regions and seek to compare and contrast between regions to determine whether those regions are environmentally different from a socioeconomic standpoint. If one can show that these regions are statistically different, one can say that those differences are perceptible by US MNC managers and are likely to be reflected in the relative weights that they assign to SFAS 52's salient economic factors. If one finds that the salient economic factors are weighted differently by management across regions, one can infer that the differences will affect the functional currency decision from geographic region to region.

The Functional Currency Decision Process

In deciding how to weight SFAS 52's salient economic factors from region to region, the US MNC decision-maker must judge the importance of each factor based upon his or her prior learning, knowledge, assumptions, and experiences with each region and his or her firm's operations in each. From this analytical/judgment process, the decision-maker assigns weights to each salient economic factor. If there are no environmental perceptually significant differences between regions, there are unlikely to be any discernible statistically significant differences between weights assigned across regions.

Similarly, in making the functional currency decision for entities in each region, the US MNC decision-maker must decide upon the importance of each entity characteristic in rating its relative importance. If the decision-maker perceives each region as environmentally similar, his/her rating of each entity characteristic should not differ significantly from region to region assuming comparability in the foreign entities.

If specific foreign environments affect similar subsidiary operations differently and the US MNC decision-maker observes that differential effect, then it is reasonable to assume that in determining the functional currency the US parent will perceive

that and rate the entity characteristics specified in SFAS 52 differently in different geographic regions to reflect the effect of the local environment.

The investigation of these issues will provide insight into the functional currency determination process of US MNCs. If environmental differences exist between regions it will be interesting to see whether salient economic factor weightings and entity characteristic ratings capture those differences. Ultimately, the results will provide evidence of how firms consider the foreign environment in determining functional currencies.

The Data

The data are a subset of the actual encoded responses to a questionnaire survey of US-based MNCs conducted in 1984 for the FASB by Evans and Doupnik (E&D) (1986). They consist of 30 corporations (one-sixth of all respondents) which showed they had operations in each of the four geographic regions examined in the E&D study. The complete data set consists of 299 variables for each of 180 respondent firms (E&D, p. 17).

The present analysis uses actual data gathered for Sections I and II of the E&D questionnaire. Section I deals with the "salient economic factors" employed in determining the functional currency. E&D asked each respondent to indicate the relative weight associated with each factor in determining the functional currencies for his or her firm's foreign entities in non-highly inflationary economies in four geographic areas: Canada; Europe; Mexico, Central and South America (Latin America); and Africa, Far and Middle East (Afro-Asia). Using a 4-point scale, each respondent employed the following code to weight the factors: 0 – did not use; 1 – low weight; 2 – medium weight; and 3 – high weight for each geographic region. The E&D results from this are reproduced in Exhibit 1. E&D reported the mean weights for the salient economic factors on an overall and on a per region basis. However, they did not explore for statistically significant differences between regions nor did they attempt to link them to the regional economic environment.

Section II of the questionnaire asked respondents to indicate for the largest foreign entity in each geographic region:

(1) the primary nature of the entity's operations (on a total asset basis);
(2) the basic industrial group of the entity;
(3) the relative size of the entity, in terms of its percentage of total corporate assets, revenues, and profits for the latest fiscal year;
(4) the functional currency used for the foreign entity in 1983; and
(5) a Likert scale rating of 10 entity characteristics ranging from a low of 1 to a high of 5.

Section II, Questions 4 and 5 of the questionnaire are reproduced in Exhibit 2. The 10 entity characteristic variables are cited in paras. 80 and 81 of SFAS No. 52 as discriminating factors in determining an entity's functional currency. Respondents were asked not to rate an entity's characteristics if the highly inflationary environment

Exhibit 1 E&D "salient economic factors" question results

Salient economic factors for non-highly inflationary economies	Canada	Europe	Mexico, Central and South America	Africa, Far and Middle East
1. *Cash flow indicators*				
a. Denomination of cash flows	2.50[a] (2.33)[b]	2.63 (2.35)	2.40 (2.05)	2.26 (2.29)
b. Impact on parent's cash flows	2.03 (1.46)	2.00 (1.41)	1.93 (1.30)	1.67 (1.44)
2. *Sale price indicators*				
a. Responsiveness of sales price to changes in exchange rates	1.43 (1.30)	1.40 (1.33)	1.10 (1.24)	1.10 (1.31)
b. The market where price is determined	2.33 (2.07)	2.43 (2.04)	2.16 (1.73)	2.07 (1.98)
3. *Sales market indicator:* location of primary sales market	2.33 (2.33)	2.43 (2.26)	2.16 (1.91)	2.07 (2.19)
4. *Expense indicator*: location of primary input market	2.30 (2.17)	2.40 (2.10)	1.77 (1.79)	1.97 (2.07)
5. *Financial indicators*				
a. Denomination of financing	1.93 (1.63)	2.00 (1.72)	1.56 (1.44)	1.56 (1.65)
b. Sufficiency of cash flows to meet obligations	1.30 (1.28)	1.47 (1.33)	1.17 (1.15)	1.23 (1.31)
6. *Intercompany transactions and arrangement indicators*				
a. Volume	1.73 (1.46)	1.83 (1.49)	1.33 (1.18)	1.70 (1.40)
b. Extent of interrelationships	1.90 (1.54)	2.13 (1.57)	1.83 (1.32)	1.87 (1.48)

[a]Based upon the scale: 0 – did not use; 1 – low weight; 2 – medium weight; 3 – high weight.
[b]Numbers in parenthesis are means for the entire data set of the original E&D study.
Source: Evans and Doupnik (1986).

mandated use of the US dollar as the functional currency. The E&D study examined whether the ratings of entity characteristics were independent of the entity's functional currency (US dollar versus foreign currency) in the different geographic regions. E&D did not examine differences between regions. E&D concluded that "substantive differences appear to exist between US dollar and foreign currency functional currency entities" and that "the average ratings for US dollar designated entities in Mexico and Central and South America were not as different from foreign currency designated entities as in the other three geographical areas" (E&D, pp. 38–39).

To test whether there were measurable differences among these four geographic regions at the time of the E&D study, the authors collected contemporaneous economic data for the countries of each region in which the respondents indicated their firm's largest foreign entity was located. These data are presented in Table 1.

One-way multivariate analysis of variance (MANOVA) of the data was performed to learn whether there were regional differences. Since inflation was so variable in Latin America, the assumptions of MANOVA concerning similarity of cell variation did not hold. Therefore, a square root transformation was made to standardize cell

Exhibit 2. E&D "rating of foreign entity's characteristics" questions

Section II.

4. Functional currency used for entity in 1983 ______
5. Rating of entity's characteristics on a scale of 1 (low) to 5 (high):

Note: If the highly inflationary environment mandated use of the US dollar as the functional currency for this entity, do not rate its characteristics. Instead, check here [ ] and go on to p. 8.

a. Integrated into the local economy.

b. Direct and integral part of parent company.

low 1 2 3 4 5 high

c. Day-to-day operations dependant on local economy.

low 1 2 3 4 5 high

d. Assets used in current operations acquired from parent or by expanding US dollars.

low 1 2 3 4 5 high

e. Generates local currency.

low 1 2 3 4 5 high

f. Expands local currency.

low 1 2 3 4 5 high

g. Generates US dollars available to parent.

low 1 2 3 4 5 high

h. Long-term debt financing from parent or US dollar sourced.

low 1 2 3 4 5 high

i. Cash flows related to individual assets and liabilities directly impact on the parent's cash flows on a current basis and are readily available for remittance to the parent.

low 1 2 3 4 5 high

j. Volume of intercompany transactions with parent and non-local affiliates.

low 1 2 3 4 5 high

k. Volume of third currency transactions.

low 1 2 3 4 5 high

Source: Evans and Doupnik (1986).

variation. MANOVA results shown in Table 2 show there was a regional effect (significant at the 0.06 level); i.e. that at least one of the four regions differed significantly from each other. Also, between regions, there is a difference on gross domestic product (significant at the 0.02 level) and government consumption (significant at the 0.06 level) but not on the other socioeconomic variables. The inflation variable (at 0.125) was close to the 10 percent significance level.

Hypotheses and Methodology

It has already been shown that the character of the local economy in which a foreign subsidiary is located may have a major impact upon the *modus operandi* of the parent, and also the subsidiary. Consequently, because significant socioeconomic

Table 1. Selected socio-economic data for countries in which largest foreign entity is located grouped by geographic region

				As a percentage of gross domestic product[2]							
	Largest entity per country	Inflation[1] rate	Gross[2] domestic product	Government consumption	Private consumption	Agriculture	Industry	Construction	Retail	Communication	Other
Canada	30	4.8	13 400	20	56	3	26	5	12	6	36
Europe											
UK	13	6.3	7 533	22	61	2	30	5	11	6	36
Germany (FRG)	7	2.8	10 025	20	57	2	35	6	11	6	36
Netherlands	2	3.6	8 533	17	59	4	28	5	13	6	39
Switzerland	1	2.9	14 146	13	63	–	–	–	–	–	–
Italy	3	14.7 [1983]	6 114	16	61	5	29	6	19	5	34
Sweden	1	10.6	11 370	28	51	3	25	6	11	6	36
None	4	–	–	–	–	–	–	–	–	–	–
Latin America											
Brazil	11	1937.6	1 579	8	70	10	30	5	14	5	38
Mexico	10	53.0	2 284	9	63	9	29	4	28	7	24
Venezuela	4	16.5	2 947	13	60	7	41	3	11	11	31
Argentina	1	626.7	2 482	–	–	–	–	–	–	–	–
Columbia	1	30.6	1 298	11	71	17	28	6	14	8	28
Peru	1	671.2	978	11	63	11	32	6	18	6	27
Trinidad (Tobago)	1	13.3	7 752	22	58	3	33	13	15	8	34
None	1	–	–	–	–	–	–	–	–	–	–
Afro-Asia											
Australia	7	5.3	11 720	19	60	5	27	7	16	7	39
Japan	6	2.23	10 263	10	59	3	33	8	14	6	39
Hong Kong	3	11.2	5 969	7	64	1	25	5	21	7	29
Korea (South)	1	3.1	2 052	10	59	13	33	8	13	8	23
Philippines	1	50.3	615	7	75	26	29	6	20	6	13
S. Africa	3	17.3	2 208	18	55	5	38	3	11	9	26
Zimbabwe (Rhodesia)	1	(4.1)	668	20	63	10	33	4	11	7	26
Malawi	1	20.0	176	16	69	–	–	–	–	–	–
Egypt	2	17.1	863	–	–	–	–	–	–	–	–
Libya	1	9.0[1983]	7 839	–	–	–	–	–	–	–	–
None	4	–	–	–	–	–	–	–	–	–	–

[1] *World Economic Data* edited by C.A. Albert. Santa Barbera: California: ABC–CLIO, 1987.
[2] *National Accounts Statistics: Analysis of Main Aggragates, 1986.* New York: Publishing Division, United Nations, 1989.

Table 2. Results of ANOVA of selected socio-economic data for countries in which largest foreign entity is located grouped by geographic region

Dependent variables	*F* value	PR>*F*
Inflation	2.25	0.125
Per capita gross domestic product (GDP)	4.55	0.019
Government consumption as % of GDP	3.01	0.063
Private consumption as % of GDP	1.59	0.234
Agriculture as % GDP	1.37	0.289
Industry as % of GDP	0.80	0.514
Construction as % GDP	0.09	0.962
Wholesale/retail as % of GDP	0.70	0.567
Transportation as % of GDP	1.61	0.230
Other	1.79	0.192
MANOVA test criteria for the hypothesis of no overall region effect		
Hotelling–Lawley trace = 13.962		
F Approximation	2.17	0.0632

differences exist across regions, the relative weights MNCs assign to the "salient economic factors" for the determination of the functional currency are likely to differ significantly across regions. Thus, the first null hypothesis to be tested is:

$H_0 1$: The weights assigned to the salient economic factors of SFAS 52 do not differ *across* the four regions, Canada, Europe, Latin America, and Afro-Asia.

Repeated-measures ANOVA was used to test for significant differences across geographic regions in mean weightings of the salient economic factors by firms. Geographic region was the dependent variable; the salient economic factors were the independent variables. Repeated-measures ANOVA is appropriate as the same respondent rated each salient economic factor for each region for each firm. Repeated-measures ANOVA corrects for the respondent effect in the data.

The character of the local economy in which a foreign subsidiary is located also may have a major impact upon the *modus operandi* of the subsidiary, and upon its characteristics. It appears reasonable that different factors are more relevant to the functional currency decision in different geographic regions. This should be evident in the rating the US parent assigns to the characteristics of its largest foreign entity in each of the four geographic regions. Thus, the second null hypothesis to be tested is:

$H_0 2$: The ratings of foreign entity characteristics (listed in paras. 80–81 of SFAS 52) do not differ across the four regions, Canada, Europe, Latin America, and Afro-Asia.

Logistic regression was employed to test for a regional effect in determining the functional currency. The logistic procedure fits a multiple regression model to a single binary (0–1) dependent variable. The functional currency chosen was assigned a value of one if the local currency was indicated; and zero if the dollar was indicated. The independent variables consist of the 10 entity characteristics and the four geographic regions. A stepwise technique was employed to specify significant factors.

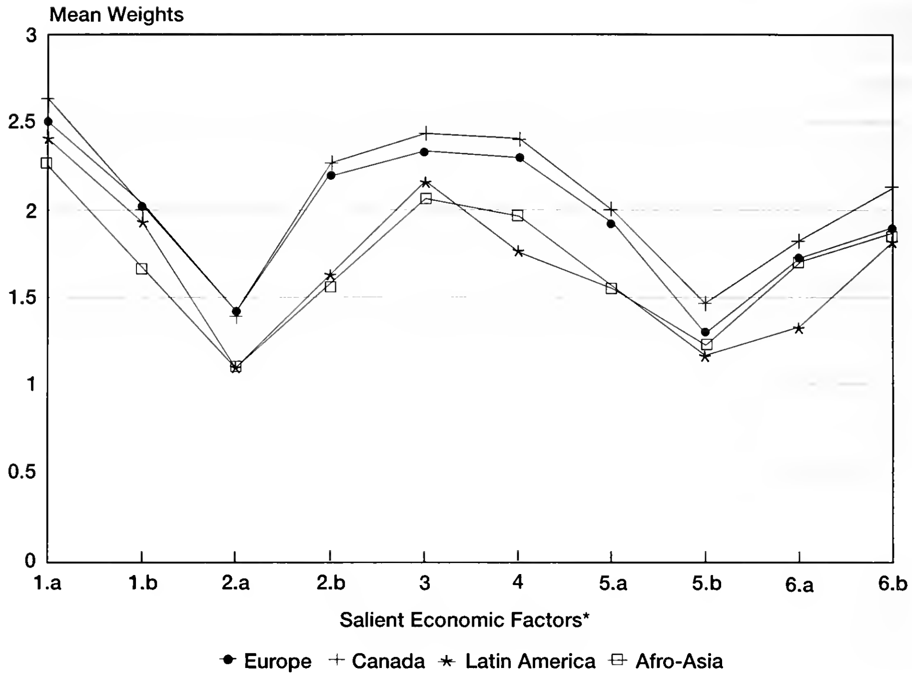

Fig. 1. Graph of a salient economic factor mean weights by geographic region.

Results

Since the economic environments of the four regions differed, the research issue of interest was whether that fact was reflected by the respondents' weighting of the salient economic factors. The mean weights the respondents assigned to the salient economic factors by region (Exhibit 1) reveal that they tended to place Canada and Europe in one class and Latin America and Afro-Asia in another class, generally weighting the factors lower in those regions than in Canada and Europe. (Fig. 1).

Repeated-measures ANOVA was used to evaluate whether there was an interaction between the weights assigned to the salient economic factors and the geographic region. The results in Table 3 show that a significant interaction did exist (at the 0.0003 level), showing that weightings of salient economic factors differed significantly from region to region. Thus, the first null hypothesis that the weights assigned to the salient economic factors of SFAS 52 do not differ across the four geographic regions is rejected.

The rating of entity characteristics provided by respondent firms could differ across regions for two reasons: (1) the regional environment impacts on the *modus operandi* of entities located there (as is hypothesized in this study); or (2) the nature of the respondent firms' foreign entities differs from region to region. To rule out the latter as the reason for any observed differences across regions, the authors

Table 3. Repeated-measures ANOVA of the interaction between salient economic factors and geographic regions

Source: salient economic factors				
df	ANOVA SS	Mean square	*F* Value	PR>*F*
9	157.22000000	17.46888889	7.48	0.0001
Source: error (salient economic factors)				
df	ANOVA SS	Mean square		
261	609.23000000	2.33421456		
Source: geographic region				
df	ANOVA SS	Mean square	*F* Value	PR>*F*
3	31.31333333	10.43777778	6.63	0.0004
Source: error (geographic region)				
df	ANOVA SS	Mean square		
87	136.93666667	1.57398467		
Source: salient economic factors by geographic region				
df	ANOVA SS	Mean square	*F* Value	PR> *F*
27	11.05333333	0.40938272	2.28	0.0003
Source: error (salient economic factors by geographic region)				
df	ANOVA SS	Mean square		
783	140.69666667	0.17968923		

examined the data gathered in Section II, Questions 1, 2, and 3 of the E&D study related to the foreign entity's primary nature of operations, SIC code, and relative size.

In most cases, for each firm the primary nature of the largest foreign entities' basic operations was the same from region to region. There were no discernible patterns of similarity for each firm's largest foreign entity in the different geographic regions measured as percentages of total corporate assets, revenues, and profits. Thus, it is not possible to say that each firm's largest foreign entity tended to be the same size from region to region.

As noted, the different geographic regions did differ significantly from each other on socioeconomic variables and the salient economic factor weights showed a geographic regional effect. This suggests that the US parent perceived the environmental geographic regional differences and incorporated them in the weights they assigned to the salient economic factors. An interesting question remaining to be answered is,

Table 4. Stepwise logistic regression results: functional currency determination model

Variable	Beta	Standard error	χ^2	*P*	*R*
Intercept	−7.25224391	2.08365683	12.11	0.0005	
Expands local currency	2.03754330	0.50604587	16.18	0.001	0.292
Direct and integral part of parent company	−1.05167546	0.30284474	12.10	0.0005	−0.246
Latin America	−3.69070221	1.00638968	13.45	0.0002	−0.262
Day-to-day operations dependent on local Economy	0.72923189	0.34182664	4.55	0.0329	0.124

given similar entity operations from geographic region to region, whether US MNC respondents' determination of the appropriate functional currency per region reflects the effect of the regional environment.

In Section II of their functional currency questionnaire, E&D asked the respondents to indicate the functional currency used in 1983 for their largest foreign entity in each geographic region and to weight 10 entity characteristics on a scale of 1 (low) to 5 (high) (refer to Exhibit 2).

To determine whether the respondents tended to weight the characteristics the same or differently from region to region in determining the functional currency, logistic regression was employed to test for a regional effect. The results presented in Table 4 show that there was a regional effect. The Latin-American entity characteristics were rated differently from those in the three other regions. Thus, it is possible to reject the second null hypothesis that the ratings of foreign entity characteristics do not differ across the four geographic regions.

Summary and Conclusions

We reject the full first null hypothesis, that the weightings of the silent economic factors did not differ across the four regions, Canada, Europe, Latin America, and Afro-Asia. Further, we reject the second null hypothesis, that US-based MNCs rated foreign entity characteristics the same from geographic region to region.

Our results show both regional effect and differential effect across regions. Thus, in this unique case where the implementation of domestic accounting standard relies pivotally on the perception of foreign environments, our results suggest that this process is working as the assenters of SFAS 52 expected. Based on our analysis, differences in the geographic regions where US-based multinationals operate are properly reflected in the functional currency decisions and do support the functional currency approach in SFAS 52. Our results do not support a US dollar approach to currency translation.

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International Joint Ventures: A Perspective on Organizational and Accounting Implications of Global Partnering for US Multinationals

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Key words: Joint ventures; Reporting standards – American and European; Seventh Directive

Abstract: *The rapid increases in international flows of capital, products, and technologies, and the emergence of the multinational enterprise have complicated organization management and accounting to an unprecedented level. Many questions as to the proper organization form, in light of international accounting complexities, still remain; but multinational companies have turned in growing numbers to the international joint venture (IJV) as the new organization form for competing in the global marketplace. These IJVs present complex accounting and organization challenges. This paper offers a practical and theoretical analysis of the organizational intricacies of doing global business in joint venture form and then offers a critical examination of complex issues involved in accounting for this new model of global enterprise.*

For most of the twentieth century a large domestic market insulated US firms from the sharply competitive international environment. But more recently, American firms have witnessed the erosion of their market shares with the entry of large numbers of foreign competitors and products into markets that have been traditionally American. Also, some industries reached a high degree of maturity. Thus, in order to remain viable and survive into the next century, American managers expanded their domestic businesses to international markets.

Over the last 20 years US multinational corporations (MNCs) have ventured into global markets in unprecedented numbers, not so much as a matter of choice, but of survival. As international business activity has increased so have the challenges to the US accounting professional in the accurate reporting of global business activities.

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One area of international reporting is particularly troublesome for the US corporation – accounting for international joint venture (IJV) activity.

However, the ways of doing business proven successful in the domestic markets were not always applicable in foreign countries. Managers had to cope with competitive conditions, different laws, and business and cultural practices varied from country to country – including accounting standards and practices. Confronted with the need rapidly to increase their international expertise, American firms found that partnering with firms or governments familiar with host country practices smoothed the rough spots in international business.

American MNCs found in the IJV a new and attractive way of competing in the world economy. The Americans were not alone in discovering that it takes a great deal of money and time if they independently developed new products designed to penetrate new markets. Thus, Motorola needed Toshiba's distribution capacity to enter the Japanese semiconductor market. ICL, the British computer firm, could not have developed its new generation of mainframes without Fujitsu.

What is an IJV? It can be defined as any affiliate of an MNC where the equity is partly owned by another foreign firm or government. Another description is a coorperative form of organization between independent parties operating in international business who could otherwise engage in competition or have competitive potential.[1]

K. Harrigan noted that joint venture strategies provide a means for organizations to undertake projects that involve great uncertainties, costly technological innovations, or high information costs.[2] Firms such as US West, AT&T, Toyota, and General Electric are linking with foreign rivals to create cooperative research, telecommunications, manufacturing, and distribution ventures. T. Tyebjee views the joint venture decision in the broader context of global competition. Firms no longer seek to "go-it-alone" and in turn will focus on lowering barriers to entry in many market segments, as well as reducing risk through the joint venture avenue.[3]

This paper discusses the theoretical framework for undertaking international organization activities in a joint venture form and extends its analysis of IJVs to a critical examination of the complex reporting issues involved in accounting for IJV activities for the American partner.

The Rationale and Theory of IJVs

Why a Global Partnership?

There has been a tremendous amount of progress in the knowledge base supporting the creation of "right" organization structure – the one that "fits." Most of the work on corporate structure is based on the work of Alfred Chandler, *Strategy and Structure*. Chandler's work led to a host of research culminating in the idea that the right structure for an organization is one that has blended its structure, management practices, rewards, and people into a harmonious group fitting into the environment surrounding it. Structure, according to H. Mintzberg, should reflect the organization's situation.[4] If a firm finds itself doing business in an uncertain or turbulent environment,

it should seek a way to minimize the uncertainty to harmonize with its surroundings. Joint ventures can be a means of inter-organizational activity that creates this harmonizing effect, particularly in the context of global enterprises.

The primary reasons for the growing popularity of the IJV have been the following:

(1) Ease and speed of entry into untested foreign markets is enhanced by host country partners.
(2) Government restriction of foreign ownership in many countries is reduced.
(3) Shared financial resources, equipment, and knowledge can create greater value sooner than a lone MNC trying the full ownership route.

Yet, one should recognize that the danger from an IJV is the potential for competition from a partner. Hamel et al. have maintained that "a strategic alliance can strengthen both companies against the outsiders even as it weakens one partner vis-à-vis the other".[5] These authors pointed to the history of alliances between Asian companies and Western rivals which have generally seemed to work against the Western partner. Nevertheless, IJVs still seem the most attractive route to market and technology access.

Transaction Cost Economics and Strategic Behaviour in an IJV

Kogut has more narrowly defined a joint venture as "two or more firms pooling a portion of their resources within a common legal organization".[6] He suggests that any discussion of this common legal organization must answer the question of why one chooses an IJV over another structure. Transaction cost theory holds that if corporations are to derive benefits from joint efforts with partners these benefits must be greater than those from exploiting firm-specific advantages separately or joint activities through a contract arrangement.[7–11] Strategic behavior theory suggests that the motive for undertaking an IJV is to improve the competitive position of the parties, regardless of the cost minimization potential of the alliance.

Corporate Control and the External Field

A new theoretical contribution in explaining the motivation for international activity in joint venture form can be found in Neil Fligstein's analysis of corporate transformation. He suggests that in order to ensure their survival corporations go through four major stages in their strategic response to the problems of corporate control over their business environment:

Direct control of competition
Control through manufacturing
Control through marketing
Control through finance

Direct control means eliminating competition through various predatory trade practices. Manufacturing control involves a search for better production methods. Control through marketing relies on a strategy centred on advertising and sales. These methods of control have historically been the ways in which American managers

dealt with environmental crisis. Fligstein's stage of financial control is most relevant to the problems associated with accounting for IJVs.[12]

Control through finance is characterized by acquisition and diversification. The element that spawned this control was the evolution of the multidivisional or M-structure of firm configuration. This form of organization demanded new monitoring techniques. Fligstein suggests that "once managers chose to venture into industries where they had little production or marketing expertise, the only way to evaluate products was through financial performance."[13]

Firms lost a specific product identity and became pools of financial assets to be manipulated by executives with backgrounds in finance or general management.[14] Fligstein's theory demonstrates that firms will act in ways that will provide stable environments in crisis situations and lead to survival and corporate profitability. The finance conception of control depends on elaborate accounting procedures and standards to monitor the resources of the diverse corporation. Financial control fails in the context of IJVs if the twin purposes of internally serving managerial interests and externally reducing environ-mental uncertainty are not met. That leads to a discussion of the implications of current accounting standards on IJV activity.

Accounting Implications of Joint Venture Activity

Many MNCs have difficulty articulating what constitutes successful performance for the IJV, particularly in an emerging section of the world market (e.g., Eastern Europe). The initial configuration of the IJV is decided by the bargaining power, strategic needs, and initial strength of firms participating. This initial structure will then be subject to various change forces (e.g., changes in strategic mission, changes in industry success requirements, and political forces) that will or may demand a redesign of the joint venture. Such reconfiguration may result in redefined assessments of performance and linkages, changes in scope of mission, or venture termination. IJVs present a particularly interesting and challenging problem from an accounting standpoint. The burden for performance reporting falls on the accounting systems of the entities involved. The accounting or reporting system must inform not only the management of the MNC of risk exposure but also the stockholders and other investors. Any required reporting standards must reflect the reality of doing business in international markets. Stakeholders must have adequate information upon which to make a rational investment decision.

Accounting for IJV Activity: General Rules

Among the many decisions an MNC must make in establishing an IJV is what form the business entity will assume. As already suggested, IJVs are undertaken to achieve one of four basic purposes: to strengthen the firm's existing line of business, to enter new markets with old products, to capture a share in new product development and then sell them in current markets, and to diversify into new products and markets. Companies, depending on the purpose behind using IJVs, will have different preferences in the form their IJV takes. In essence, the decision is whether to incorporate or not.

The decision will be influenced by many factors, not the least of which are the accounting and reporting implications and requirements for an IJV in corporate form. Before examining the issues relating to accounting for IJVs it is important first to understand how the accounting profession defines and subsequently treats IJVs. Paragraph three of the Accounting Principles Board Opinion No. 18 defines an IJV as follows:

Corporate Joint Venture – refers to corporation owned and operated by a small group of businesses (the joint venturers) as a separate and specific business or project for the mutual benefit of the members of the group. A government may also be a member of the group. The purpose of the corporate joint venture frequently is to share risks and rewards in developing a new market or technology, to combine complementary technological knowledge, or to pool resources in developing production or other facilities. A corporate joint venture also usually provides an arrangement under which each joint venturer may participate, directly, or indirectly, in the general management of the joint venture. Joint venturers thus have an interest or relationship other than as passive investors. An entity that is a subsidiary of one of the joint venturers is not a corporate joint venture. The ownership of a corporate joint venture seldom changes, and its stock is usually not traded publicly. A minority public ownership, however, does not preclude a corporation from being a corporate joint venture.[15]

This definition characterizes IJVs as a different type of business organization. As will be shown below, the accounting treatment will also be different from other corporate investments.

If a firm decides to form an IJV that is incorporated then the accounting literature and rules would dictate that it must use the equity method of accounting for its investment. Paragraph 16 of APB #18 dictates that IJV's (incorporated) must use the equity method regardless of their percentage control over the voting stock. Even if the investor had less than a 20% stake (i.e., lacks significant influence) the firm must use the equity method rather than the cost method. If the investment were anything but an IJV, the firm would have the option of using the cost method of accounting for its investment (i.e., income recognized equals dividends received). On the other hand, if the investor had a controlling influence (i.e., owns more than 50% of the voting stock), it must also use the equity method. Consolidation of financial statements is not allowed. Financial Accounting Standards Board Statement (FAS) #94 requires the use of the equity method for IJVs regardless of the level of influence (i.e. percentage ownership). In all other circumstances the investment would have to be accounted for using the consolidation method.[16]

This prescription against using the consolidation method of accounting for investments is also embraced in Accounting Research Bulletin (ARB) #43 that allows an exemption if an entity (IJV) is involved in international business.[17] The normal presumption, as presented by ARB #51, paragraph 1, is that the consolidation method and resulting financial statements are more meaningful and are necessary for fair presentation particularly when the investor has a controlling interest.[18] The exemption granted to IJVs, better yet the requirement to use the equity method, is an interesting and unexplained anomaly in accounting theory.[19]

The procedures an entity is to follow in applying the equity method are described in paragraph 19 of APB #18. Briefly the equity method requires that an investor first book the investment in an IJV at its purchase price. In subsequent years adjustments to the investment account would be made for such things as the investor's proportion of income/loss, goodwill amortization, and dividend repatriation.[20] The major impact

of the equity method is for the investor to take into income and the investment account its portion of the IJV's income.

Besides including part of the IJV's income, and adjusting the investment account, the investor is required to make certain disclosures. However, these disclosures are required *only if* the IJV is incorporated.[21] The disclosures required to be made are the IJV's assets, liabilities, and results of operations. They may be made in accompanying notes or as separate statements.

A thought-provoking development occurs if the IJV is unincorporated. Then, Interpretation #2 of APB #18 is the functional accounting statement. A question asked in the Interpretation is: Do the provisions of APB #18 apply to partnerships and unincorporated IJVs? The answer is: APB #18 applies *only* to investments in common stock or corporations and *does not* cover investments in partnerships and unincorporated IJVs (also called undivided interest in ventures).

The Interpretation stipulates that profits and losses from unincorporated business be reflected in the investment account, as in the equity method. Furthermore the provisions of paragraph 19 of APB #18 are operative for unincorporated IJVs. The interesting point is that while Interpretation #2 stipulates that the provisions of paragraph 19 are to be followed in applying the equity method it strangely does not dictate that the provisions of paragraph 20 of APB #18 are to be followed. Paragraph 20 stipulates what supplemental information is to be parenthetically disclosed.

This oversight results in a major gap in disclosure requirements simply because an investor may choose to form an unincorporated IJV. As a result significant off balance sheet financing could be omitted. It is difficult to explain why IJVs generate different disclosure requirements in the accounting literature, given that the only difference is business form.

Implications of this conceptual gap were identified in an article by Neuhausen.[22] FAS #94 reiterates that the disclosure requirements of APB #18 are still operative and attempted to resolve many of these shortcomings. However, there is still no requirement for unincorporated IJVs to reveal their important and/or relevant financial information. FAS #94 allows the same exceptions to consolidation as did ARB #51. These exemptions become functional if the IJV or any other entity operates under foreign exchange restrictions, or government-imposed uncertainties are so severe that they cast doubt on the investor's ability to control the investee. The statement retains the applicability of the equity method of accounting for IJVs.[23] As the earlier statements, FAS #94 only prescribes that investors should account for investments in common stock of corporate IJVs by the equity method in consolidated financial statements. It makes no mention of how to account for unincorporated IJVs.

Accounting for IJVs: The Currency Problem

All of the above complications arise even if an IJV were only formed and operated in the United States. However, when an MNC begins to account for an IJV in the international sector it becomes an even more difficult task because little guidance is given in the literature on how to account for such business dealings. The uncertain and constantly shifting situation, political and economic, in developing and emerging countries highlights the anomalies in the reporting requirements shown above. Given

the rapid expansion of global economic opportunities, particularly the Eastern European IJV opportunities, this is both a perplexing and troubling situation.

FAS #94 dictates that an IJV should be accounted for using the equity method, regardless of the location of the entity.[24] No matter what form the IJV takes (incorporated or unincorporated), the investor must use the equity method. Here significant differences can arise in the amount of supplementary information an investor would volunteer or need to disclose. Paragraphs 58 and 59 of FAS #94 show that the board optimistically feels investors will voluntarily disclose information. But, in fact, if an investor chooses to have an unincorporated IJV, no additional supplementary information of the workings of the IJV need be disclosed. Conceivably, significant risk factors affecting the IJV could be withheld from the investing public. In the international sector such information is especially critical to assess the level of risk associated with a particular investment and the impact of the IJV on the MNC's cash flow.

Accounting for IJVs becomes even more complicated and ambiguous when the investor begins to apply the requirements of FAS #52 (international accounting).[25] The accounting literature offers precious little information on how to account for foreign IJVs in general and specifically how to use the equity method for foreign investments. As the only guidance FAS #52 offers the requirement that investors apply its provisions to foreign investments which are being accounted for with the equity method.[26] It designates the functional currency approach and applies to both statement translation and currency transactions.

The functional currency approach requires that an investor, when accounting for the IJV, define first the functional currency of the entire entity. For US firms this will be the US dollar. However, the investor must also define the functional currency of the IJV. The functional currency of a particular foreign entity is defined as the currency of the primary economic environment in which it operates and generates cash flows.[27] Defining the functional currency of the IJV will have a tremendous impact on how its results will be reported.

If the IJV is little more than a sales outlet for the investor then the functional currency of the IJV will be the US dollar. Consequently, the financial operations will be remeasured (i.e., translated) in dollars using the temporal method.[28] The term remeasure means to translate the unit of measure from a foreign currency into the functional currency. The important implications of remeasurement are that any translation gains or losses flow directly to the income statement of the investor.

For example, if the IJV is a self-contained manufacturing operation located in Hungary, which has markets throughout Europe, then the functional currency of the IJV would be the Hungarian forint. In this instance the investor would translate the operations of the Hungarian IJV using the current method. The process is identical to the above remeasurement process; however, in the case of translation, any gains or losses arising from changes in currency rates would not flow through to the investor's income statement, rather the adjustment would be reflected as part of the investor's equity section. In subsequent years, translation gains and losses would flow through to this component of the investor's equity.

In another possible scenario a Hungarian IJV could have such extensive dealings with the German market that the IJV's accounting records were denominated in

Deutschmarks (DM). If this is the case then the remeasurement process would be in order. The records would be translated from DMs to forints. The Hungarian IJV's results would then be translated to the functional currency of the investor (i.e., US dollar). The entire process would be done using the temporal process so that any translation gains/losses would be included in the income statement of the investor.[29]

Accounting for Consolidations and Joint Ventures: The European Experience

The European Economic Commission's Council of Ministers has passed a number of directives which are designed to standardize company law throughout the participating European countries. The directives establish a minimum standard that each member country is expected to meet. Member countries are free to have more stringent requirements but not to the degree that it impedes trade among member states. The seventh directive formulated accounting rules relating to the consolidation of financial statements.[30,31]

Prior to the adoption of the seventh directive, European countries have differed considerably in how they accounted for inter-company investments. Consolidation was not a common practice on the continent of Europe. There was no agreed-upon view or definition of what constituted a group. Instead, there were three competing theories. The parent company concept was based on logical control of a subsidiary. It assumes that one entity dominates another and does not account for minority holdings. The entity concept recognizes the equal importance of all shareholders in the group of companies and, thus, stresses the economic unity of all enterprises in the group. The proprietary concept emphasizes neither legal nor economic control but rather ownership or the ability to exercise significant influence over the commercial and financial policy making of the subsidiary.[32]

In Great Britain the main concern and audience were the shareholders of the parent company. Consolidation has been practiced in Great Britain since the 1930s. English accounting rules allowed joint ventures to be accounted for by using either the equity method or proportional consolidation. In the Federal Republic of Germany consolidation has been practiced since the 1960s. Before the seventh directive foreign subsidiaries consolidated and in the case of other inter-company investments proportional consolidation was not allowed. Joint ventures located outside of Germany were excluded from the company's financial statements. For domestic joint ventures German rules allowed both the equity method and proportional consolidation. In France, consolidation has been practiced only since the 1970s. It only became a legal requirement after the implementation of the seventh directive in 1985. As far as joint ventures were concerned, French accounting rules allowed both proportional consolidation and the use of the equity method.[33]

Consolidations and Joint Ventures after the Seventh Directive

The purpose of the seventh directive (hereafter referred to as the directive) was threefold: (1) harmonization of accounting rules; (2) improvement of accounting practices; (3) improvement of the disclosure of information to assist in the control

of MNCs by their home countries.[34] Contrary to popular belief harmonization, in this instance synonymous with more consistency in member countries' financial reporting requirements, was not the major objective of the EEC's directive as a majority of member countries did not require consolidation. Therefore, the easiest way to achieve harmonization would have been not to require it.

On a more theoretical note the directive tended to follow the Anglo-Saxon definition of a group. While the directive strikes something of a compromise between the parent and entity concept, it leans toward the parent concept.[35] It defines subsidiaries in terms of ownership, not control. The directive also adopts the parent concept in which the production of consolidated financial statements assumes that a group of enterprises can be regarded as a single accounting entity. Furthermore it allows no exemption from consolidation for foreign subsidiaries.[36]

The directive takes a prescriptive approach as it establishes a set of accounting rules and dictates the use of prescribed formats. Thus, it requires that companies based in EEC member countries present a consolidated balance sheet and income statement for the entity as a whole. Here, the ministers adopted the British view that the financial statements must present a true and fair view of the entity. On the whole, harmonization did occur by bringing continental accounting practices into line with British practices.[37]

Joint ventures and associated undertakings were considered problem areas of accounting by the writers of the directive. Associated undertakings are investments in which the parent exercises significant influence and in holding the shares as a long-term investment. Under the directive the equity accounting method is required for associated undertakings.[38] In the end and rather by default the directive views joint ventures as a unique type of entity. Joint ventures can be accounted for either by the equity method or by proportional consolidation, if national law mandates it.[39] In the United Kingdom accountants can use either method to account for activities of both types of entities. In Germany both methods are allowed, but the equity method is generally preferred. However, proportional consolidation is permitted in accounting for joint ventures. French rules prescribe the use of proportional consolidation for joint ventures and the equity method for associated undertakings.[40] (For an overview, see Table 1.)

In summary, European practices have changed with the adoption of the directive. Continental countries have been forced to adopt the parent minimum standards on disclosure, accounting practices, consistency, and inclusiveness.[41] But, with respect to joint ventures, their accounting in Europe, as in America, remains problematic. EEC practices allow both single line (equity method) and proportional consolidation. Member states are free but do not have to adopt more stringent requirements with respect to disclosure and the amount of information to be provided.

Conclusion

The fundamental changes happening in the world have created a window of opportunity for multinational business unlike any seen before. IJVs provide choices to MNCs in strategies and related business forces. Yet each choice carries many implications,

Table 1. Development of accounting theory relating to IJVs

	Europe before seventh directive	Europe after seventh directive	US standards
Theory (concept)	GB – Parent FRG – Entity FRN – Proprietary	Parent	Parent
J.V. Accounting	GB – Equity method; proportional allowed FRG – Equity method proportional consolidation not allowed FRN – Proportional; equity method acceptable	Equity method; proportional allowed only if National standards allow	Equity method; proportional consolidation allowed but rarely used
Reporting issues	GB – All material joint venture activity FRG – Exclude IJVs FRN – All material joint venture activity	All material joint venture activity (in Europe and out)	All material joint venture
Disclosures	Various national standards	Directives #7 and Articles 26 and 34 (assets, net incomes, liabilities) (no. of Employeees)	FASB #94 Assets, liabilities net income
Standards	Various national standards	Directive #7 Some national supplements	FASB #94

Note: GB = Great Britain; FRG = Federal Republic of Germany; FRN = France.

not the least those for financial reporting. However, the accounting rules for that reporting are not only of great complexity but contain anomalies. That is no minor or purely technical matter since with the internationalization of business has come that of financing. The global financial market needs and demands a great deal of reliable information upon which to base investment decisions. This would indicate that the accounting rules for IJV's will need to be further refined, even harmonized on a wider international scale.

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The Valuation of Initial Public Offerings and Accounting Disclosures in Prospectuses: New Evidence from Korea

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Key words: Initial public offerings; Accounting disclosures; Valuation relevance; Korean evidence

Abstract: *Using a sample of 177 initial public offerings (IPOs) listed on the Korea Stock Exchange (KSE) during the July 1988–March 1990 period, this paper examines the relationships among firm value and various accounting and signalling variables disclosed in the offering prospectus. Unlike previous studies, the present study incorporates the impact of different motives for going public on the valuation of IPOs. Our results generally indicate that accounting information disclosed in prospectuses plays a crucial role in the valuation process of Korean IPOs. In every empirical specification, accounting variables, taken as a whole, are found to have a significant effect on initial firm value. In particular, firm size and financial leverage are consistently significant. Further, we observe some evidence that the market uses a different process in the IPO valuation when firms have different motives to go public. Specifically, the Leland and Pyle (1977) ownership retention signal does not have empirical support when entrepreneurs view equity financing as a last resort for raising funds to invest while it has weak support when existing shareholders intend to diversify their portfolio holdings.*

The valuation of initial public offerings (IPOs) has been the subject of numerous theoretical and empirical studies. In most studies, the information advantage possessed by corporate insiders in the IPO market has been recognized. Further, it is now widely accepted that entrepreneurs with high-quality projects can undertake various actions which can credibly signal the true value of their firms. Leland and Pyle (1977: LP), for example, show that entrepreneurs with high-quality projects can convey their private information by increasing the fraction of ownership retained.[1] Their univariate signalling model suggests that a risk-averse entrepreneur prefers to shift all firm-specific risk to well-diversified investors, but is willing to assume some of that risk in order to transmit his private information regarding the firm's

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future cash flows to outsiders. The more favorable the project, the greater the percentage of ownership he retains.

Initial tests of the LP model by Downes and Heinkel (1982: DH) indicate that a firm's value is indeed an increasing function of entrepreneurial ownership retention. Ritter (1984), however, argues that, while the theoretical implications of the LP model are clear, it is difficult to test it empirically due to the complexities associated with controlling for other factors which affect the firm's value. Even if one observes a positive relationship between firm value and ownership retention, the result may be consistent with other non-signalling roles of retained ownership, which he terms the wealth effect and agency hypotheses. The LP model and Ritter's hypotheses are further examined by, among others, Krinsky and Rotenberg (1989a,b) and Clarkson et al. (1991: CDRS). They obtain diverging results when testing the role of ownership retention in the valuation of Canadian IPOs. Thus, while the theoretical implication of the LP model are not clear, the results of empirical testing are not yet conclusive.

According to Rock (1986), IPOs can be classified into two groups based on their reasons for going public. In the first group, one may include IPOs whose owners want to diversify their portfolios. Firms which do not have an alternative source of funds to finance their projects fall into the second group. As noted above, entrepreneurs in the LP model clearly belong to the first group. Thus, one might question the validity of the LP model in the case of IPOs which issue unseasoned common stocks as a last resort for acquiring funds (Myers, 1984). With the exception of Kim et al. (1993), all previous empirical studies on IPOs have failed to account these two distinctive motives for going public.

In the present study we empirically examine the relationships among the initial values of Korean IPOs, potential signalling variables, and various accounting and financial variables revealed in prospectuses. Using Korean data allows us to test various hypotheses suggested in the literature in a financial market which is subject to different institutional arrangements from North American ones.[2] In doing so, we explicitly incorporate Rock's two different motives for going public into the valuation of IPOs. Further, some of the unique characteristics of the Korea Stock Exchange (KSE) are explored. We consider this project important because of the increased prominence of the KSE in the global investment community. At the end of 1989, the KSE was the tenth largest exchange in the world in terms of market capitalization.[3] Until recently, direct investments by foreigners in Korean securities were prohibited.[4] The recent change in the Foreign Exchange Control Law that took effect on January 1, 1992, however, permits direct investment by non-residents. In our view, the Korean capital market, supported by one of the fastest-growing economies in the world, will provide an attractive investment opportunity to North American investors and will play a major role in the evolution of a global financial market.

The remainder of the paper is organized as follows. The next section describes the data used in this study along with a brief discussion of some institutional background. In section 2, we present test procedures and empirical results for the LP univariate signalling model as well as multivariate models. In each analysis, we compare and contrast the Korean case with empirical regularities observed in the United States and Canada. The final section provides a summary and concluding remarks.

1. Data Description and Some Institutional Background

During the sample period of July 1, 1988 to March 31, 1990, 203 new listings on the KSE have been identified. All of these listings took place following the most recent regulatory change of June 25, 1988. As of that date, the pricing of IPOs has been liberalized and it is now set through direct negotiations between the issuer and the underwriter.[5] The final sample is compromised of 177 IPOs after dropping 16 financial institutions and 10 firms with missing data. The sample has a broad base in terms of pre-issue sales revenue, total assets, and net income (see Table 1). Twenty industries are represented in the sample, of which electric and electronic (31), textile, leather, and wearing apparel (21), wholesale and retail trade (24), and chemical (11) dominate.

As discussed in Kim et al. (1993), the IPO market in Korea can be classified into three subcategories. They are: (1) offering of new shares (i.e., primary shares), (2) the sales of old but not previously traded shares (i.e., secondary shares), and (3) a combination of (1) and (2). The institutional arrangement of identifying the type of issue provides a unique opportunity for testing the impact of the issuer's motive to go public on IPOs' valuation. Firms in the first group can be considered as having no alternative source of funds. This motive is consistent with Myers' (1984) pecking order theory in which firms, in deciding on the source of funds to finance investments, consider using retained earnings first, debt second, and equity financing only as a last resort. An increase in the number of total shares outstanding and, hence, total equity enables these firms to finance their operating and/or capital expenditures (i.e., equity financing as a last resort). When a firm sells some of its old but not previously traded shares, however, at least a subset of current shareholders intend to diversify their portfolios. Further, in the Korean IPO context, the difference in types of IPOs may also have an important valuation effects. An increase in the number of shares outstanding through issuing new shares implies that the firm will pay more dividends in the future.[6] In empirical testing, therefore, the sample is divided into two groups, reflecting the owners' motives for going public. The first group is comprised of 107 firms which issued new shares only (hereafter NEW) while the 70

Table 1. Sample profile (sample period: July 1988–March 1990)

	Type[a]	Mean	s.d.	Minimum	Maximum	Median
Sales revenue	All (177)	3.750	5.091	0.354	46.497	1.883
(SKW × 10^{10})	NEW (107)	3.359	4.055	0.354	24.806	1.843
	OLD (70)	4.347	6.345	0.544	46.497	2.236
Total Assets	ALL (177)	3.024	4.548	0.267	34.165	1.360
(SKW × 10^{10})	NEW (107)	2.689	3.989	0.267	24.817	1.237
	OLD (70)	3.536	5.280	0.380	34.165	1.607
Net income	ALL (177)	0.124	0.142	0.005	0.849	0.063
(SKW × 10^{10})	NEW (107)	0.103	0.118	0.005	0.490	0.047
	OLD (70)	0.155	0.169	0.017	0.849	0.090

[a]The NEW category includes firms whose offerings consist of issuing new shares only. The OLD category includes firms whose offerings involve the sales of old but not previously traded shares. ALL includes both the NEW and OLD categories.
SKW = South Korean won. At the end of March 1990, US $1.00 = SKW702.10.

Table 2. Descriptive statistics for ownership retention (sample period: July 1988–March 1990)
The ownership retention ratio is measured as the percentage of ownership retained by all existing shareholders.

Type[a]	Mean	s.d.	Minimum	Maximum	Median
ALL	69.41	1.50	60.00	70.00	70.00
NEW	69.36	1.40	61.54	70.00	70.00
OLD	69.49	1.65	60.00	70.00	70.00
CDRS (1991)	68.04	16.07	10.00	97.30	70.90
Ritter (1984)	72.00	9.00	43.00	95.00	50.00

[a]The NEW category includes firms whose offerings consist of issuing new shares only. The OLD category includes firms whose offerings involve the sales of old but not previously traded shares. ALL includes both the NEW and OLD categories.

firms in the second group offer old but not previously traded shares or a combination of both (hereafter OLD).[7]

The LP model deals with a single entrepreneur who retains a specific fraction of firm ownership. In empirical testing, however, several problems might arise when trying to identify the entrepreneur (i.e., the informed insider) and thus the proportion of ownership retained. CDRS note that existing studies use either the proportion of total ownership retained by all existing shareholders (e.g., DH and Ritter, 1984) or a subset of existing shareholders such as directors and officers (e.g., Simunic and Stein, 1987). They argue that the first measure is more appropriate, and used in this study as a proxy for the ownership retention ratio. Table 2 provides some descriptive statistics for the fraction of ownership retained by all existing share-holders. For ease of comparison, information on this variable for 180 Canadian companies used by CDRS and 559 US firms used by Ritter (1984) is also provided.

The fraction of ownership retained by insiders is, on average, equal to 69.4 percent, similar to what is observed in the United States (72 percent) or Canada (68 percent). The standard deviation in Korea (1.5 percent), however, is much smaller than the one reported for the United States (9 percent) or Canada (16 percent). This difference might be explained by both a regulatory constraint and significant underpricing of Korean IPOs.

According to the KSE listing requirements, existing shareholders cannot retain more than 70 percent of outstanding shares. (See the appendix in Kim et al., 1993,

Table 3. Descriptive statistics for the degree of underpricing (sample period: July 1988 – March 1990)

The degree of underpricing is measured as the return from the offer price to the closing price on day *t* less the market return during the same interval

	Type[a]	Mean	s.d.	Minimum	Maximum	Median
Day 1 return	ALL	57.53	38.22	–0.52	207.61	48.10
(%)	NEW	68.63	41.80	4.53	207.61	57.79
	OLD	40.57	23.64	–0.52	98.46	39.42
Day 7 return	ALL	72.06	47.91	–0.40	239.36	63.80
(%)	NEW	87.90	49.09	12.09	239.36	53.78
	OLD	47.84	34.20	–0.40	156.08	43.53

[a]The NEW category includes firms whose offerings consist of issuing new shares only. The OLD category includes firms whose offerings involve the sales of old but not previously traded shares. ALL includes both the NEW and OLD categories.

for a detailed description of the KSE listing requirements). Thus, in terms of retained ownership, Korean entrepreneurs going public face a constrained maximisation. Further, the average initial market return in the first trading day was 57.53 percent for the entire sample (Table 3). If one uses the seventh day closing price, the degree of underpricing becomes even greater. This means that the current owners are, in effect, giving away 30 percent of their firm to outside investors at two-thirds of its fair value (Dawson, 1987). Hence, it is not surprising that most firms sell the minimum fraction allowed under the KSE regulation (i.e., 30 percent) to new shareholders. For the purpose of this study, one should, therefore, expect that the ownership retention ratio will not play a significant role in signalling firm value as it might do in North American markets.

Additional data extracted from the IPO prospectuses include subscription price, various items from financial statement, and the proposed use of proceeds from the IPOs. All monetary variables were translated into 1988 constant values using the Korean Consumer Price Index.

2. Test Procedures and Empirical Results

LP Univariate Signalling Model

In the LP model, the initial market value of a firm, $V(\alpha)$, may be expressed as:

$$V(\alpha) = \frac{-b\sigma^2}{1+r_f}[\alpha + \ln(1-\alpha)] + K \tag{1}$$

where α is the fraction of ownership retained by the entrepreneur, r_f is the risk free interest rate, σ^2 is the project's specific risk, b is the entrepreneur's risk aversion expressed as a parameter in a mean-variance utility function, and K is the amount invested by the entrepreneur.

In the empirical specification, $\hat{\alpha}$ serves as the LP ownership signal which is equal to $\alpha + \ln(1 - \alpha)$. The LP signal is, therefore, negatively related to the proportion of ownership retained. By observing α, and given knowledge of the other parameters, investors are also able to infer the true value of the firm. In their test of the LP model, DH used the following regression line (hereafter the DH model) to express a firm's value:

$$V = b_0 + b_1 K + b_2 \hat{\alpha} + \varepsilon \tag{2}$$

where V and K were identified as the firm's market value after the initial offering and the IPO proceeds, respectively. Because $\partial V/\partial\alpha > 0$ in Equation (1) but $\partial\hat{\alpha}/\partial\alpha < 0$, the regression coefficient b_2 in Equation (2) is expected to be negative. To make our results comparable to those of previous research, we first test for hypothesized negative relation between the initial firms value and the LP signal using the DH model. The relationship is, then, further examined within the context of multivariate specification.

In estimating the DH model, the initial market value of the firm, V, is measured as the first day closing price per share multiplied by the number of shares outstanding

after the initial offer. Utilizing the subscription price could serve as an alternative specification for computing the dependent variable, V. The latter approach, however, requires a "rational expectations" assumption which may be inappropriate, given the existing evidence of underpricing (see Table 2). The investment variable, K, in Equation (2) is measured as the firm's gross proceeds from the sale of old shares. This definition is consistent with Hughes (1989), who argues that K in the LP model represents the amount invested by the firm rather than the amount injected by new shareholders.[8] Thus, the use of net proceeds from the IPO (Downes and Heikel, 1982; Ritter 1984) or total assets (Kinsky and Rotenberg, 1989 a, b) might result in misspecification of the model. Two alternative estimation procedures are employed: the weighted least squares (WLS) with the investment variable K as the weighting factor and White's (1980) heteroscedasticity-consistent estimate of the variance-covariance matrix (OLS^{w}).

Table 4 reports the results for the univariate regressions. Of the alternatives presented in the table, the coefficient of the LP signal, b_2, has the predicted sign (i.e., negative) and is statistically significant at the 5 percent level only for two cases (ALL and OLD categories when the WLS estimation procedure is used). In the case of NEW firms, the coefficient is positive and insignificant. As mentioned earlier, the LP signalling model explicitly assumes that firms go public because their owners want to diversify their portfolios. Therefore, it is not surprising that the LP model is rejected when companies issue unseasoned common stocks as a last

Table 4. Univariate regressions (sample period: July 1988–March 1990)

The LP signalling hypothesis is tested using the Downes and Heinkel (1982) version of the univariate regression line is given as

$$V = b_0 + b_1 K + b_2 \hat{\alpha} + \varepsilon$$

where V and K represent firm's market value after the IPO and the IPO proceeds, respectively. $\hat{\alpha}$ is the LP signal which is equal to $\alpha + \ln(1-\alpha)$.

Estimation method[a]	Type[b]	$b_0 \times 10^{10}$	b_1	b_2	R^2
WLS (weight = K)	ALL (177)	–29.033 (–3.64)	0.671 (7.29)*	–66.477 (–4.16)*	0.26
	NEW(107)	2.755 (0.43)	2.142 (19.13)*	5.278 (0.41)	0.79
	OLD (70)	–24.760 (–1.89	0.406 (3.05)*	–59.285 (–2.27)*	0.14
OLS^W	ALL (177)	–3.120 (–1.45)	1.420 (2.76)*	–8.301 (–1.58)	0.51
	NEW(107)	0.267 (0.39	2.162 (9.65)*	0.373 (0.27)	0.84
	OLD (70)	–3.223 (–1.14)	0.972 (1.90)	–9.819 (–1.59)	0.30

t-values in parentheses.
*Significance at the 5 percent level.
[a]WLS represents the weighted least squares estimation method while OLS^W is the ordinary least squares estimation method using White's hetreoscedasticity-consistent varience–convarience matrix to compute standard errors.
[b]The NEW category included firms whose offerings consist of issuing new shares only. The OLD category includes firms whose offerings involve the sales of old but not previously traded shares. ALL includes both the NEW and OLD categories.

resort for acquiring funds to continue and/or expand their operations (i.e., the NEW category firms). When the OLS^w estimation procedure is used, b_2 becomes insignificant even for ALL and OLD categories. To conclude, the data from the KSE lend some empirical support to the LP model when the motive for going public is diversification. On the other hand, one may question the validity of the model when the underlying assumption of diversification is violated.

The empirical specification by Downes and Heinkel (Equation (2)) implicitly assumes that the variance of end-of-period cash flows, σ^2, is constant across sample firms while the LP model calls for σ^2 to be a firm-specific variable. Hughes (1989) argues that this risk measure tends to increase with firm size. In order to relax at least partially DH's assumption and hence to control the size effect, he proposes two alternative specifications in which σ^2 is decomposed into a rate of return variance σ_r^2, (assumed to be constant across all firms) and a firm-specific value component. Under the assumption that the end-of-period cash flows are perfectly correlated across all firms, the decomposition takes the following form;

$$\sigma^2 = V^2\sigma_r^2 \tag{3}$$

On the other hand, the assumption of perfectly independent end-of-the-period cash flows yields

$$\sigma^2 = V\sigma_r^2 \tag{4}$$

Substituting these two expressions into the LP model (Equation (1)) leads to the two alternative scaled regression lines of Hughes:

$$\frac{V-K}{V^2} \quad a_0 + a_1\hat{\alpha} + \varepsilon \tag{5}$$

$$\frac{V-K}{V} \quad a_0 + a_1\hat{\alpha} + \varepsilon \tag{6}$$

Feltham et al. (1989) also make an attempt to control the size effect and propose the following regression model:

$$\frac{V}{K} = a_0\frac{1}{K} + a_1 + a_2\frac{\hat{\alpha}}{K} + \varepsilon \tag{7}$$

The results for the three scaled regression models are reported in Table 5.

For the model using V^2 as the scaling factor of the dependent variable (panel A), the coefficient for $\hat{\alpha}$ takes an unexpected positive sign and/or is insignificant at the 5 percent level. Clearly, this scaling does not provide any evidence supporting the LP signalling hypothesis, which is consistent with the finding of Krinsky and Rotenberg (1989a) for Canadian IPOs. When the scaling factor is V (panel B), the coefficient on the LP signal is negative but insignificant with t-values ranging from –0.06 to –0.43. Thus, our results still do not lend clear support to the LP model. These findings are in sharp contrast to those reported, for example, by Hughes (1989) for two US data sets. Finally, for the model proposed by Feltham et al. (panel C), the coefficient on the LP signal is insignificant for all three categories. As shown in Table 5, it is clear that the various scaling approaches, which are used to modify the constant risk assumption, do not result in any evidence supporting the

Table 5. Results of scaled regressions (sample period: July 1988–1990)

Panel A: Regression model: $\frac{V-K}{V^2} = a_0 + a_1\hat{\alpha} + \varepsilon$

Type of offering	$a_0 \times 10^{-9}$	$a_1 \times 10^{-9}$	R^2
ALL	0.111	0.143	0.015
	(2.56)*	(1.64)	
NEW	0.291	0.188	0.047
	(2.22)*	(2.89)*	
OLD	0.009	–0.052	0.004
	(0.34)	(–0.92)	

Panel B: Regression model: $\frac{V-K}{V} = a_0 + a_1\hat{\alpha} + \varepsilon$

Type of offering[a]	a_0	a_1	R_2
ALL	0.400	–0.227	0.001
	(1.43)	(–0.41)	
NEW	0.503	–0.031	0.001
	(1.98)*	(–0.06)	
OLD	0.259	–0.493	0.003
	(0.44)	(–0.43)	

Panel C: Regression model: $\frac{V}{K} = a_0\frac{1}{K} + a_1 + a_2\frac{\hat{\alpha}}{K} + \varepsilon$

Type of offering[a]	a_0	$a_1 \times 10^{-10}$	$a_2 \times 10^{-10}$	R^2
ALL	2.187	–0.299	–0.829	0.038
	(19.62)*	(–1.10)	(–1.48)	
NEW	2.094	–0.408	–1.092	0.089
	(20.19)*	(–1.36)	(–1.75)	
OLD	2.289	0.397	0.603	0.011
	(8.62)*	(0.68)	(0.56)	

t-values in parentheses.
* Significance at the 5 percent level.
[a]The NEW category includes firms whose offering consist of issuing new shares only. The OLD category includes firms whose offerings invlove the sales of old but not previously traded shares. ALL include both the NEW and OLD categories.

LP signalling hypothesis. Even though the alternative models are estimated separately for NEW and OLD categories, the results remain virtually the same.

In summary, the results in Tables 4 and 5 are in contrast to those reported by Downes and Heinkel (1982), Ritter (1984), and Clarkson et al. (1991). However, Krinsky and Rotenberg (1989a,b), who use the Canadian sample of IPOs find the coefficient on the LP signal to have expected sign (i.e., negative) but only marginally significant in two of the five models they considered. At least tentatively, we share Krinsky and Rotenberg's (1989a) conclusions that "the differences in reported results across these studies can be attributed to several factors that include, for example, differences in sample size, methodologies, omitted variables, and institutional environments facing outside investors and entrepreneurs" (p. 265). Our observed insignificant coefficient on the LP signal might be a result of the institutional constraint on diversification (i.e., the 30 percent rule) imposed by the KSE and/or the violation

of the underlying assumption in the LP model (i.e., portfolio diversification as a motive for going public).

Multivariate Model

In the signalling model of Leland and Pyle (1977), the fraction of ownership retained by corporate insiders serves as a credible signal. As noted before the model predicts that a firm's value is an increasing function of entrepreneurial ownership retention (α). Ritter (1984), however, argues that α also has two non-signalling roles. According to him, even if the positive relation is observed, it can be also consistent with the wealth effect and agency hypotheses. As for the wealth effect, it may arise because the entrepreneur with a more valuable firm needs to sell a smaller fraction of ownership in order to raise a given amount of capital. Thus the coefficient on ownership retention (b_1 in Equation (8) below) is accentuated when an OLS estimation procedure is employed. Econometrically, Ritter proposes a simultaneous equations approach in order to handle the two endogenous variables of V and α. The suggested valuation system (Equations (8) and (9)) is estimated utilizing two-stage least squares [2SLS] regression:

$$V = b_0 + b_1\alpha + b_2E + b_3I + \varepsilon \tag{8}$$

$$\alpha = a_0 + a_1V + a_2E + a_3\text{lnSG} + u \tag{9}$$

where E = annual earnings for the year prior to going public, I = IP0 proceeds raised by the firm, and 1nSG = natural logarithm of one plus the sales growth rate. All other variables are the same as those defined earlier. This 2SLS approach should give a coefficient on ownership retention closer to zero than a comparable OLS if a wealth effect is present.

Panel A of Table 6 reports the results of the wealth effect hypothesis test. For ALL and OLD categories, the two-stage estimation procedure results in an increase rather than a decrease in the coefficient b_1 in Equation (8). Further, for the NEW category firms, the coefficient exhibits an unexpected negative sign. It is clear that the wealth effect hypothesis is not supported when our sample of Korean IPOs is used. These results are consistent with those obtained by Ritter (1984) for a sample of US IPOs.

Under the agency hypothesis, the fraction of insider holdings plays a real role in determining firm value. It is well known that the smaller the fraction of equity owned by the manager, the more likely a firm is to experience managerial shirking. The reason is that the owner-manager bears only a fraction of the cost of shirking which is equivalent to the managerial ownership retention ration. This means that a firm's value is an increasing function of the fraction of insider holdings. Accordingly, the OLS regression with α as the dependent variable and V as an independent variable (Equation (9)) will overstate the coefficient on V, a_1. As a way to overcome this simultaneous equations bias, Ritter proposes a two-stage estimation procedure whereby Equation (8) is used in the first stage to predict a firm's market value which is then substituted for the actual firm value in Equation (9). Consistent with the agency hypothesis, Ritter finds that the coefficient on firm value, a_1 in Equation (9), becomes

Table 6. Results of two-stage least squares regressions (sample period: July 1988 – March 1990) 2SLS Regressions are used to test the wealth effect and agency hypotheses.

Panel A: Wealth effect hypothesis: $V = b_0 + b_1\alpha + b_2E + b_3I + \varepsilon$

Type[a]		$b_0 \times 10^7$	$b_1 \times 10^7$	b_2	b_3	R^2
ALL	OLS	–5.66	8.90	9.99	0.79	0.57
			(1.19)	(2.05)*	(1.22)	
	2SLS	–147.98	253.34	7.81	0.72	0.58
			(1.61)	(1.96)	(1.13)	
NEW	OLS	0.88	–1.22	1.60	2.06	0.85
			(–0.39)	(0.61)	(6.06)*	
	2SLS	22.31	–32.20	2.05	2.08	0.85
			(–0.62)	(0.77)	(6.30)*	
OLD	OLS	–1.64	3.04	16.83	–0.07	0.49
			(0.36)	(2.27)*	(–0.11)	
	2SLS	–217.87	314.52	15.79	–0.11	0.51
			(1.37)	(2.36)*	(–0.18)	

Panel B: Agency hypothesis: $\alpha = a_0 + a_1V + a_2E + a_3\text{lnSG} + \varepsilon$

Type[a]		a_0	$a_1 \times 10^{-13}$	$a_2 \times 10^{-12}$	a_3	R^2
ALL	OLS	0.69	0.23	0.75	–0.01	0.03
			(0.94)	(0.79)	(–1.50)	
	2SLS	0.69	1.45	1.60	–0.01	0.03
			(0.84)	(1.66)	(–1.50)	
NEW	OLS	0.69	0.24	1.60	–0.01	0.05
			(0.80)	(1.66)	(–1.20)	
	2SLS	0.69	0.20	1.68	–0.01	0.05
			(0.59)	(1.55)	(–1.00)	
OLD	OLS	0.70	0.10	0.26	–0.10	0.01
			(0.30)	(0.19)	(–1.11)	
	2SLS	0.65	91.89	–148.10	–0.11	0.36
			(2.41)*	(–2.39)*	(–1.38)	

t-values in parenteses.
*Significance at the 5 percent level.
[a]The NEW category includes firms whose offering consist of issuing new shares only. The OLD category includes firms whose offerings invlolve the sales of old but not previously traded shares. ALL includes both the NEW and OLD categories.

smaller when the 2SLS procedure is employed. For our data, however, the two-stage estimation procedure results in a smaller a_1 only for the NEW category firms (panel B of Table 6, row 2), providing only a limited support for the agency hypothesis. In all other cases, Ritter's procedure results in an increase, rather than a decrease, in a_1.

Given the limited success of the LP signal in explaining the valuation of IPOs in the KSE, an alternative valuation model is proposed and estimated. This model includes a number of variables that have been advanced in the literature regarding the valuation of IPO. The Multivariate specification used in the present study is given as:

$$\text{LV} = \gamma_0 + \gamma_1\alpha + \gamma_2\text{UWQ} + \gamma_3\,\text{LINVEST} + \gamma_4\,\text{SIZE} + \gamma_5\,\text{FL} + \gamma_6\,\text{RRA} + \varepsilon \quad (10)$$

where LV = natural logarithm of initial firm value calculated by utilizing the first day closing price,[9] α = ownership retention ratio, UWQ = dummy variable denoting the quality of the underwriter, LINVEST = natural logarithm of issue proceeds

designated to capital expenditure, SIZE = standardized firm size, FL = financial leverage measured by the ratio of total debt to market value of the firm, and RRA = rate of return on total assets.

This multivariate specification is similar to those used in previous studies, including CDRS and Kim et al. (1993), and contains four accounting variables and two signalling variables.

The two signalling variables are α and UWQ. Again, the ownership retention, α, is proxied by the percentage of ownership retained by all existing shareholders. As for UWQ, it has been argued that entrepreneurs use the quality of the underwriter (Booth and Smith, 1986; Carter and Manaster 1990; Johnson and Miller, 1988) or auditor (Titman and Trueman, 1986; Beatty, 1989) to eliminate some of the investors' uncertainties not resolved by the prospectus and/or to signal favorable private information. The main value of the underwriter/auditor' quality in the analysis that it is at least partially discriminating. Similar to Bacher (1989), one can interpret underwriting quality as any observable characteristic of an investment banker that is treated by investors as an indication of professionalism in performing the underwriting work. One would expect, among other things, that the size of the investment banker, its expertise within a particular industry, or its past experience in underwriting successful new issues might influence investors' assessment of the information contained in the prospectus. A dummy variable, UWQ, is included in the model as an indicator of underwriter quality. One is assigned to an offering sold by a high-quality underwriter where the quality is determined using the ranking of investment dealers on the basis of their market shares. Of the 26 underwriters in our sample, the largest five (as of March 1990) are classified as "prestigious" or high-quality underwriters.[10] A positive coefficient is expected for the underwriter quality variable [UWQ].

Even though the communication by direct disclosures (e.g., through accounting reports) is often dismissed due moral hazard problems, accounting numbers still represent an important source of information of firms going public. It is well known that there is no market mechanism to aggregate information into the price until trading begins. In the absence of market prices, non-market sources of information, such as financial reports, would be utilized by issuers and underwriters for setting the prices of IPOs (Bloch, 1986) and by investors for making their investment decisions. Indeed, firms going public are required by law to provide prospectuses that contain detailed financial accounting information. The KSE, for example, requires all firms to disclose three years of audited financial information data in the prospectus of an IPO. Thus, in addition to the two signalling variables, the model (Equation (10) involves four accounting variables disclosed in the prospectus.

Issue proceeds on the prospectus are designated to either capital expenditures or operating expenditures. The former involves an increase in a firm's production capacity and, hence, might reflect insiders' optimistic view about the firm. While capital expenditure represent accounting information, they may also be used as a signalling variable by a high-quality firm that a low-quality firm is unable to mimic (Welch, 1989). The variable LINVEST in Equation (10) measures the amount of issue proceeds designated to capital expenditures. A positive coefficient on this variable is expected.

The variable SIZE in Equation (10) proxies ex ante uncertainty of a firm's future cash flows. This approach is consistent with previous findings in the literature (e.g., Beaver et al., 1970). Ritter (1984), for example, shows that ex ante uncertainty is inversely related to the size. We employ the standardized book value of pre-IPO total assets as a proxy for firm size. This variable is defined as

$$\mathrm{SIZE} = \frac{\mathrm{TA} - \mathrm{E}(\mathrm{TA})}{\sigma(\mathrm{TA})} \tag{11}$$

where TA denotes the book value of firm's total assets in the year prior to going public; and E(TA) and σ(TA) are the cross-sectional mean and standard deviation of TA, respectively. The size variable is standardized in order to control the dominating effect of total assets on firm value.[11] Ex ante uncertainty is also proxied by financial leverage, FL (Ben Zion and Shalit, 1975) which is measured as the ratio of total debt to the market value of the firm after the IPO. A negative (positive) coefficient for FL (SIZE) is expected

The rate of return on assets, RRA is included in our multivariate model because the profitability of existing operations may provide evidence of management effectiveness to outsiders. This is a crucial concern for investors in a previously owner-managed firm where the disciplinary forces of the managerial labor market have not been imposed. High profitability on existing operations may also alleviate concerns over the historical level of managerial shirking and/or perquisite consumption. RRA is measured by the ratio of net income to total assets. Using profit margin as in Downes and Heinkel (1982), is an alternative. It is well known, however, that profit margins vary considerably across industries. Therefore. a better measure of profitability, for samples comprised of companies from different industries, would be a rate of return on total assets. Obviously, a positive relation is expected between a firm's value and RRA.

Table 7 reports the results of multivariate regressions for the three categories. All t-values are presented on an adjusted basis, using White's heteroscedasticity-consistent variance–covariance matrix to compute standard errors. A Chow (1960) test, given at the bottom of the table, indicates that the joint effect of the six independent variables on initial firm value is significantly different when firms have different motives for going public. The relationship between accounting information and the initial firm value in the IPO market is tested using a partial F-test on the four accounting variables. All values of the partial F-statistics reported in Table 7 are significant at the 5 percent level and, hence, the results support rejection of the null hypothesis that firm value and accounting numbers are not related.

As shown in Table 7, the coefficients on the ownership retention signal, α, range from –1.35 to 1.701 with t-values of –0.73 to 0.64, all insignificant at the 5 percent level. In the case of OLD firms, the coefficient is negative rather than positive. One would expect the LP hypothesis to get some empirical support for the OLD category in which the motive for going public is consistent with its underlying assumption (i.e., portfolio diversification). The results in Table 7, however, do not support the hypothesis and they contradict those reported in Table 4. One can only speculate that the effect of ownership retention on the initial firm value is mitigated by the other variables used in the regression. The results in Table 7 indicate that the

Table 7. Results of multivariate regressions (sample period: July 1988–March 1990)

$LV = \gamma_0 + \gamma_1\alpha + \gamma_2 UWQ + \gamma_3 LINVEST + \gamma_4 SIZE + \gamma_5 FL + \gamma_6 RRA$

		ALL	NEW	OLD
Constant	γ_0	23.770	23.214	25.544
		(16.82)*	(12.39)*	(20.92)*
Ownership retention	γ_1	0.953	1.701	−1.365
		(0.47)	(0.64)	(−0.73)
Underwriter quality	γ_2	0.242	0.178	0.218
		(3.19)*	(1.77)	(1.94)
ln (investment)	γ_3	0.004	0.008	−0.009
		(1.01)	(1.61)	(−1.39)
Firm size	γ_4	0.748	0.874	0.602
		(7.72)*	(7.28)*	(5.41)*
Financial leverage	γ_5	−2.490	−2.586	−2.361
		(−6.99)*	(−6.15)*	(−4.20)*
Rate of return on assets	γ_6	0.642	1.980	−0.962
		(0.57)	(1.24)	(−0.58)
R^2		0.66	0.72	0.63
Degree of freedom		170	100	63
Joint hypothesis test: $\gamma_3 = \gamma_4 = \gamma_5 = \gamma_6 = 0$				
F-statistic		27.24*	27.55*	11.56*
Degrees of freedom		(4,170)	(4,100)	(463)
Chow test of parameter structural change:				
F-statistic = 2.29*		Degrees of freedom = (7,163)		

t-values in parentheses.
*Significance at the 5 percent level.

coefficients on UWQ are always positive as expected. Their t-values are also significant at or close to the 5 percent level. Thus, our results support the hypothesis that the selection of a prestigious underwriter, other things being equal, exerts a positive influence on initial firm value. This evidence is consistent with the findings of previous research by Downes and Heinkel (1982) and Hughes (1989), and others.

Of the four accounting variables, only the coefficients on SIZE and FL are significant. Further, they have the expected signs, i.e. positive for SIZE and negative for FL. Recall that these variables are used as proxies for ex ante uncertainty. Thus, the results in Table 7 clearly indicate that the level of ex ante uncertainty is useful for outside investors in assessing the value of a firm in the IPO market. The coefficient on LINVEST, γ_3, has the expected sign [positive] but is only marginally significant for the NEW category firms while it is negative and insignificant for the OLD firms. Therefore, our results indicate that the market perceives an IPO firm's future expansion, at best, as a marginally positive sign only when the motive for going public is to acquire new funds. Finally, the coefficient on RRA is insignificant. Unlike Downes and Heinkel (1982) but similar to Krinsky and Rotenberg (1989a,b), our results indicate that there exists an insignificant relation between the initial value of a firm and its profitability. Even though the impact of individual accounting variables on initial firm value is highly diverse, they are jointly important in IPO valuation as evidenced by the partial F-statistics reported in Table 7. Thus, our results support the notion that accounting disclosures in prospectuses are relevant to investors in the valuation of IPOs.

3. Summary and Conclusions

This paper empirically examines the relationship between the initial valuation of IPOs and various accounting and potential signalling variables in a financial market which is subject to a different institutional and regulatory environment from that in North America. This paper also attempts to incorporate Rock's (1986) motives for going public into IPO valuation. In this section, we summarize and conclude our findings.

Empirical testing of the relationship between the initial value of an IPO and various accounting variables indicates that outside investors utilize accounting information disclosed in the offering prospectus in their assessment of unseasoned equity shares. In particular, regardless of the motive for going public, two proxies for ex ante uncertainty (i.e., firm size and financial leverage) consistently play a crucial role in the valuation process of IPOs. On the other hand, our empirical results on the LP signalling hypothesis are at best mixed. In general, the LP signal does not possess statistical significance. The hypothesized positive relationship between firm value and ownership retention is clearly violated when a firms enters the IPO market to raise capital for investment. At best, we can argue that the greater proportion of ownership retained by entrepreneurs may increase the firm's value only when diversification is the motive for going public. Clearly, one cannot ignore the 30 percent regulatory constraint imposed by the KSE as a possible explanation for the apparent insignificance of ownership retention. Finally, the notion that high-quality underwriter can reduce ax ante uncertainty and/or can signal favorable private information is generally supported.

When a firm goes public, there is no aggregate market price which market participants can use as an indicator of its value. They must, however, make their investment decisions regarding the new issue. Our study highlights the importance of various information contained in the offering prospectuses in such a situation. Further, by partitioning the sample into two groups on the basis of the IPO's offer type, we find that the valuation effect of various accounting and potential signalling variables on IPOs is systematically different when firms have different reasons for going public. Our results suggest that future empirical and theoretical studies of IPOs should incorporate Rock's (1986) motives for going public.

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Notes

1. Other indicators of a firm's initial value mentioned in the literature include, for example, the quality of the underwriter and/or author (Titman and Trueman, 1986; Beatty, 1989; Carter and Manaster, 1990) and the degree of underpricing (Grinblatt and Hwang, 1989; and Welch, 1989). See Ibbotson and Ritter (1992) for a thorough review of the various hypotheses.

2. For international evidence on the valuation and other phenomena of IPOs, see Loughran et al. (1993).
3. *The Montreal Exchange Guide to World Equity Markets 1990*, edited by B. De Caires and D. Fletter. London: Euromoney, 1990).
4. Prior to January 1, 1992, the only way for foreigners to participate in the Korean market was through investment trusts such as the Korea Fund.
5. "Emerging markets" often have binding institutional constraints in setting the offer price and others. See Loughran et al.(1993) for a detailed comparison across countries.
6. The reasoning is that Korean firms have traditionaly paid dividends linked to the going interest rate. Consequently, issuing new shares implies a commitment on the part of the company to increase in the total number of shares outstanding. For additional institutional information, see Kim and Lee (1990) and Kim et al. (1993).
7. Although there are three offer types in the Korean market, only five IPOs involve the sales of old shares exclusively. For this reason, the sample is partitioned into two groups instead of three.
8. Obviously, when an IPO involves the sales of only new shares, our definition of K is identical to that of Hughes (1989).
9. Even though not reported in the paper, the multivariate model is re-examined by using the first week closing price. The results, however, remain virtually the same.
10. Daishin, Dae Woo, Dongsuh, Lucky, and Ssang Yong Investment are classified as high-quality underwriters. The information regarding their market shares is obtained from *Financial Analysis of Listed Companies* published by Dongsuh Securities.
11. We have also experimented with the natural logarithm of total assets as an alternative size proxy. This variable, however, appears to dominate the regression result because it is highly correlated with the dependent variable LV.

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The Impact of Non-financial Company Characteristics on Mandatory Disclosure Compliance in Developing Countries: The Case of Bangladesh

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Key words: Company attributes; Developing countries; Disclosure compliance; Statutory disclosure index

Abstract: *This study empirically assesses the extent of statutory information disclosure in the corporate annual reports of listed non-financial companies and the impact of selected key company attributes on the degree of disclosure compliance with accounting regulatory statutes in a developing country, Bangladesh. The results showed that none of the sampled companies complied with the existing financial regulations. Using linear regression the results showed that subsidiaries of multinational companies and large audit firms had significant positive impact on the level of disclosure compliance. The qualifications of the principal accounting officer of a reporting company had less influence.*

In recent years, considerable research has been undertaken in developing countries which deals with accounting and reporting practices by academics, professional accounting organizations, and international accounting firms. However, limited information is available about the degree of corporate disclosure compliance and the impact of corporate characteristics on mandatory disclosure levels in these countries.

In developing countries, while there are considerable incentives for voluntary disclosures in corporate annual reports, there are also reasons for not complying with mandatory disclosure regulations, including inadequate regulatory framework and enforcement mechanisms, and a lack of both an effective capital market and an accounting profession. Therefore, the assumption that all companies will disclose all mandatory information may not be true in these countries. For example, Wallace examined 47 Stock Exchange listed companies in Nigeria and concluded that many companies in that country publish annual reports that do not adequately comply with minimum disclosure regulation.[1] The lowest level of compliance was found to be with the directors' report, with 24 companies not meeting all legal requirements.

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Even in the case of the balance sheet, where the highest level of compliance was noted, approximately 16 percent of the companies sampled failed to disclose all mandatory information. Wallace found a significant positive impact of the extent of equity participation of multinational companies on the extent of compliance.

Benjamin et al. identified 10 mandatory disclosure items and assessed whether companies listed on the Hong Kong Stock Exchange comply with those items.[2] Based on a sample of 76 companies, they observed an average non-compliance rate of 22 percent, ranging between a high of 49 percent in depreciation accounting for fixed assets and a low of 4 percent for extraordinary items. They also found a significant association between the extent of non-compliance and company size, but no such relationship was noted for the size of company's audit firms and business type.

In Bangladesh, a survey by Parry and Khan of the annual reports of 74 companies for the fiscal years between 1978 and 1982 found several areas of non-compliance with the Bangladesh Companies Act 1913.[3] In particular, they noted major deficiencies with respect to non-compliance in the case of fixed assets, inventories, intangible assets, and loan and equity capital. However, the study was undertaken before the promulgation of the Securities and Exchange Rules (SER), 1987. Consequently, it is not possible to assess the extent of disclosure compliance with the combined reporting requirements of the Companies Act and the SER. Their study also did not assess statutory disclosure level and the impact of company characteristics on the degree of disclosure compliance.

Parry and Groves examined empirically the annual report of 94 companies to assess whether employment of qualified accountants by companies in Bangladesh had any impact on the quality of financial reporting.[4] The quality was measured on the basis of a disclosure index and timeliness. They found no significant relationships between the qualifications of accountants preparing the reports and those variables. In reaching their conclusions, however, the study did not assess the degree of statutory compliance or whether other corporate attributes had any impact on the level of disclosure compliance.

Using data from non-financial companies from a developing country, Bangladesh, the objectives of this paper are:

(1) to assess empirically the level of disclosure of statutory information;
(2) to determine whether a significant relationship exists between mandatory disclosure and a number of key company attributes, namely size, total debt, whether the company is a subsidiary of a multinational company, qualifications of the company's principal accounting officer, and the size of the company's audit firm;
(3) to develop a model to estimate the degree of compliance based on significant company characteristics.

Disclosure Regulation in Bangladesh

Three forces – the stock market, legislation, and the accounting profession – place requirements on accounting practices and accountants in Bangladesh. Of these, the

stock market seems to be least important because of its lack of disclosure regulation and the small number of companies listed on the Dhaka Stock Exchange (DSE). Legal control is effected by the Companies Act 1913, and the SER, 1987.

The Companies Act requires the directors of every registered joint stock company to maintain certain records and publish a balance sheet and a profit and loss account. The relevant provisions require that the balance sheet should disclose the general nature of assets, liabilities, and capital, and the valuation methods used for fixed assets, inventories, and investment according to a prescribed format. The Act requires that the profit and loss account should show a "just balance of profit or loss" by matching revenues against costs and expenses during a particular period. However, there is no such format in the Act for the profit and loss account. The balance sheet and profit and loss account must be audited, and presented to the shareholders at the annual general meeting. In accordance with section 145, the auditors are required to certify whether the balance sheet and profit and loss account are prepared in conformity with the law and whether the balance sheet exhibits a "true and correct view". The Act also requires that the directors present a report to the shareholders which must contain the amount of proposed dividend (if any) and the amount to be transferred to reserves.

The SER became effective in September 1987. Rules 12(1) and 13 of the SER 1987 require a listed company to submit to the government and shareholders an audited annual report containing a balance sheet and profit and loss account and a half-yearly balance sheet and profit and loss account within one month of the first half of the year. This provision for a half-yearly financial statement is an addition to the Act. Rule 12(2) prescribes the content and format of the balance sheet and profit and loss account, while rule 12(3) prescribes the format of the auditor's report. The balance sheet must conform to a designated "Form-A" or as near as possible. Like the Companies Act 1913, the SER also do not provide a standard format for the profit and loss account. However, the rules (in Paragraph II of the Second Schedule) require that the profit and loss account should be prepared so as to disclose clearly the results of the working of the company. The SER also prescribed a standard audit report which an auditor must follow in verifying the accounts of a company listed on the Stock Exchange.

The Institute of Chartered Accountants of Bangladesh (ICAB) is the main professional body responsible to guide, control, and set accounting standards and accountants in the country. Its members are entitled to attest accounts and to report to the shareholders whether a company's financial statements comply with statutory provisions. Professional regulation of accounting practices and accountants in Bangladesh is essentially enforced through accounting conventions and professional ethics of conduct. This is a typical example of the British policy, which is one of relying on professional conduct rather than on regulation imposed by law.

Attributes Affecting Disclosure

As was indicated in the introduction, there are a number of corporate attributes which are expected to affect the level of disclosure. These are as follows.

Size of the Reporting Company

Size is considered to be an important determinant of disclosure level. It was found to be significantly associated with the extent of disclosure in studies by Cerf; Singhvi and Desai; Buzby; Stanga; Belkaoui and Kahl; Firth; Courtis; McNally et al.; Chow and Wong-Boren; Benjamin et al.; and Cooke.[2,5–16] Many reasons have been advanced in the literature in an attempt to justify this relationship on a priori grounds. For example, information generation and dissemination are costly exercises; consequently, it is more likely that large firms will have the resources and expertise necessary for the production and publication of more sophisticated financial statements and therefore cause less disclosure non-compliance. A second reason suggested is that larger firms tend to go to the stock market for financing more often than do smaller firms. As a result, they may find it in their own interest to disclose more information and comply with statutes in their annual reports (Benjamin et al.).[2] Chow and Wong-Boren have argued that agency costs increase with the size of a company and, to reduce these costs, managers would choose to increase the level of financial disclosure.[13]

Size can be measured in a number of different ways and there is no overriding theoretical reason to select one variable rather than another.[15] Two measures of size variable were used in this study: book value of total assets (Assets) and annual sales (Sales).

Total Debt (TDT)

The long-term debt/equity ratio has been studied empirically to assess whether it bears any relationship to disclosure level, and has shown mixed results. Chow and Wong-Boren found that the leverage ratio (measured by the nominal value of the firm's total debt divided by the sum of the market value of its equity and the nominal value of its total debt) was not associated significantly with the extent of voluntary disclosure in Mexico.[13] Similarly, Baber and Ben and Ingram found an insignificant relationship between debt and the level of financial disclosure by state governments.[17,18] Belkaoui and Kahl observed a significant negative relationship between the disclosure index and the leverage ratio.[9] In contrast, debt was found to be associated (positive) significantly with the extent of municipal and school disclosure. [19–21]

In the statistical tests undertaken in the present study the absolute value of a firm's total debt, rather than the more traditional debt/equity ratio, was used. The reason for inclusion of the absolute value of debt was to assess whether the financial institutions such as development financial institutions (DFIs) and banks have had a favorable influence on the financial reporting practices of Bangladeshi borrowing companies. According to the operating procedures of all the financial institutions, borrowing companies are required to comply with a number of requirements, including the submission of annual reports and information on demand. Companies with large borrowing are monitored closely by financial institutions and may be required to furnish information more frequently than companies having small amounts of debt. Consequently, there is an a priori expectation that institutional financed companies carrying large amounts of debt on their balance sheets are likely to provide more detailed information in their annual report than companies with small amounts of debt

Multinational Company Influence (MCI)

Compared to their local counterparts subsidiaries of multinational companies operating in developing countries are expected to disclose more information and comply with statutes. They have to generate more information to comply with the more stringent accounting and reporting standards of their parent companies, which are usually incorporated in developed countries. Therefore, they have the potential, at least, to disclose more information than their local counterparts without incurring additional costs.

In developing countries, the political costs for large firms may be more than in developed countries, because political pressure groups in these countries look particularly closely at large foreign corporations, which they regard as sources of exploitation and agents of "Western imperialism".[22] Subsidiaries of multinational companies usually are significant entities in the economies of developing countries, and hence operate under constant threat of increasing government control, nationalization, or expropriation.[23,24] For example, the drug policy of the Bangladeshi government (1981) attempted to curb the dominance of multinational companies in the market for pharmaceuticals and chemicals. To reduce these political costs, multinational companies operating in developing countries may have incentives either to manipulate their accounting policies to reduce reported profits[24] or increase the level of disclosure.[25]

Professional Qualifications of the Principal Accounting Officer of the Company (QPAO)

The primary responsibility for preparing annual reports rests with the principal accounting officer of the company. Professionally qualified accountants must undertake rigorous professional training and examinations before they are admitted to membership, and therefore they are better trained than a non-qualified accountant. Parry and Groves noted that the number of professionally qualified accountants is insufficient to provide them for all large industrial enterprises in Bangladesh. Only a limited number of enterprises employ professionally qualified accountants; the rest manage with some part-qualified or unqualified accountants.[4] Consequently, a situation exists where it can be hypothesized that a company whose principal accounting officer (PAO) is a qualified professional accountant will provide more information in the annual report than a company whose accounts department is headed by a non-qualified accountant.

Size of the Company's Audit Firm (SAF)

Although the primary responsibility for preparing the annual report rests with the company's management, the audit firm of a company can influence significantly the amount of information disclosed in annual reports.[2,9] DeAngelo and Beaty argued that larger audit firms invest more to maintain their reputation as providers of quality audit than smaller audit firms.[26,27] Therefore, larger firms have a greater incentive to discover and report a breach in the client's accounting system because client financial

statements issued with errors and inadequate disclosures would diminish the reputation of larger audit firms more than that of smaller firms.[28] Specifically, it is argued that larger, more well-known audit firms exert more influence over the disclosure policies of companies than smaller and lesser-known audit firms.

According to Haque, in Bangladesh only large and reputable accounting firms have a choice in the type of clients and work they undertake.[29] New and small accounting practices must either undertake such work as it becomes available or are dictated to by their clients. However, the determination of the size (large or small) of audit firms was a difficult task as there was a lack of such information in Bangladesh. Since all practicing chartered accounting firms are either sole proprietorship or partnership firms, annual report of those firms are not published. Also there is no listing of audit firms classified according to size.

Data Collection

There were 110 companies listed on the DSE as on November, 30, 1989. As this study is concerned with the disclosure practices of non-financial companies in Bangladesh, banks, insurance companies, and mutual funds were excluded, leaving a sample of 95 companies. However, many of these companies did not hold their annual general meetings until well after the ending of their fiscal years and some of them did not send their annual reports to the DSE, while the reports of others were missing. Attempts were made to contact the sampled companies' head offices, resulting in the collection of five annual reports, so that 65 annual reports for the fiscal year 1987–88 were collected. However, initial analysis revealed that annual reports of two companies could not be included as the full-year financial results of these companies were not available. As a result, data from 63 companies were available from their annual reports for the fiscal year 1987–88.

Information relating to the qualifications of the principal accounting officers was obtained mainly by examining members lists as on July 1, 1989 published by the ICAB and the Institute of Cost and Management Accountant of Bangladesh. Additional information was obtained by contacting companies in case of confusion or when information was lacking. PAOs of 18 companies were identified as professionally qualified.

To decide whether an audit firm was large or small, a combination of three criteria was employed: (1) number of companies sampled audited by a firm; (2) number of partners in a firm; and (3) reputation of the firm in the financial community as a provider of quality audit service. The views of the current and immediate past president of the ICAB were sought in assessing the reputation of a firm. Five audit firms were identified as large, and together they audited annual reports of 23 companies during the 1987–88 fiscal year.

Determination of a Disclosure Index

Different approaches to developing a scoring scheme may be used to determine the disclosure level of a corporate annual report. The approach adopted in this study is

to use a dichotomous procedure in which an item scores one if it is disclosed and zero if it is not disclosed. Such an approach has been employed in several prior studies.[1,14–16,19] A second approach is to employ a weighted disclosure index. The weights may be predetermined subjectively;[5,6] may be a replication of weights used in previous studies;[11,30–32] or may be based on average weights derived from a questionnaire survey of users' perception of disclosure items.[7,8,10]

In the disclosure model used in this study, the total disclosure (TD) score for a company is taken to be additive. Let d_j be the disclosure value for the jth item and n is the number of statutory items the company is expected to disclose; for this study $n \leq 94$. Then

$$TD = \sum_{j=1}^{m} d_j$$

Where $d_j = 1$ if the jth item is disclosed, or 0 if the jth item is not disclosed; and $m \leq n$.

In this form the expression for TD allows for the fact that it has been assumed that if a particular item was not mentioned in the annual report, it would be treated as not applicable. For example, if no mention was made in respect of a contingent liability, it was assumed that the item was not applicable for the company in that year. However, if it was disclosed without mentioning the amount, then the score obviously would be zero. Cooke acknowledged that this procedure would introduce an element of subjectivity.[14] To overcome this potential bias, he suggested that the whole annual report should be read first and a judgment made as to whether a particular item was applicable. This was the approach taken here; the annual report of a company was read first and other relevant documents, such as prospectuses, available at the Stock Exchange Library, were obtained and examined, as necessary. In doing so, the risk of penalizing a company for not disclosing an item which was not applicable or not relevant was reduced greatly.

A disclosure index was then developed to measure the relative level of disclosure after scoring the total disclosure score of each company. The index is a ratio of the actual scores obtained by a company to the maximum score possible. The following expression captures the maximum score (M) a company can obtain:

$$M = \sum_{j=1}^{n} d_j$$

The total disclosure index (TDI) for each company then becomes TD/M.

Model Development

In order to determine the impact of the company characteristics on mandatory disclosure compliance, correlation and multiple regression techniques were used to analyze the data obtained. In the case of the regression model, the dependent variable is the total statutory disclosure index. Since the dependent variable in the present model was expressed as a ratio (constrained to lie between zero and one), the

application of the standard ordinary least-squares (OLS) regression was considered inappropriate because the OLS approach assumes an unconstrained (unbounded) dependent variable. For a constrained dependent viable the OLS technique cannot ensure that estimates of the dependent variables will lie between zero and one, that is, there is a problem that the model would give predictions of probabilities greater than one.[33,34] In order to introduce the zero–one bounds into the model, transformations involving the dependent variable generally are required before the OLS regression could be applied (p. 185 of Hanushek and Jackson).[33] One such method is to transform the dependent variable logistically, that is taking the logarithm of the odds ratio. If the probability of a firm disclosing a certain level of information is given by P, the logarithm of the odds ratio is given by

$$Y = \log\left(\frac{P}{1-P}\right)$$

where Y = transformed total statutory disclosure index (TDI); and P = computed total disclosure index for each company (TDI).

The reason for considering the odds ratio is that for a particular value of Y, P is guaranteed to lie in the range $0 \leq P \leq 1$ – a requirement of all probability measures.[35] The transformed statutory disclosure index (TSDI) was then regressed on attributes discussed earlier which were expected to affect TDI by applying the OLS regression technique:

$$\text{TSDI} = \alpha + \beta_1 \text{ Assets} + \beta_2 \text{ Sales} + \beta_3 \text{ TDT} + \beta_4 \text{ MCI} + \beta_5 \text{ QPAO} + \beta_6 \text{ SAF} + \varepsilon$$

where TSDI = transformed statutory disclosure index; Assets = natural log of book value of total assets; Sales = natural log of annual sales; TDT = amount of total debt, MCI = 1 if the company is a subsidiary of a multinational company, or 0 otherwise; QPAO = 1 if the company's principal accounts officer is professionally qualified, or 0 otherwise; SAF = 1 if the size of the company's audit firm is large, or 0 otherwise; ε=disturbance term; and α, β_i = constant or parameters to be estimated, i=1,…,6.

The Results

An analysis of the statutory disclosure index for each of the 63 companies revealed that only four companies scored more than 90 percent: the highest being 97.2 percent. The index for 37 companies (58.7 percent) was between 60 percent and 80 percent (see Appendix 1 for details). This implies that none of the companies in Bangladesh disclosed all mandatory items. The low level of disclosure compliance has also been noted in other developing countries such as Nigeria and Hong Kong.

Descriptive statistics for the dependent and explanatory variables are presented in Table 1. Since the disclosure indexes for each company were based on unequal observations, Bartlett's test was applied to test for homogeneity of variances in the index, which showed that the variance of the TSDI was homogeneous at the 0.05 level. Pindyck and Rubinfeld state that the presence of heteroscedasticity may lead to inefficient estimates of parameters.[36]

Table 1. Descriptive statistics of the dependent and explanatory variables

	Mean	Median	SD	Min.	Max.	Skewness	Kurtsois
TSDI	1.059	0.942	0.693	–0.248	3.597	0.961	1.870
Assets (000)	207 870	103 219	350 683	3916	1 962 458	4.886	21.546
Sales (000)	322 402	89 151	1 046 393	5942	6 359 795	5.314	27.944
TDT (000)	63 763	49 785	63152	0	277 529	1.369	1.781
MCI	0.159	0	0.368	0	1	1.914	1.716
QPAO	0.286	0	0.455	0	1	0.972	–1.091
SAF	0.365	0	0.485	0	1	0.574	–1.726

From Table 1 it can be shown that the skewness coefficient of the TSDI was significant at the 0.05 level, while the value of kurtosis was not significant at the same level of confidence. However, both the skewness and kurtosis of Assets and Sales indicate that the variables were not distributed normally. Logarithms of these variables were used to reduce the effects of skewness. The transformed variables revealed that the data were distributed normally. This approach was also used by Ashton et al. and Charles et a1.[37,38] For the other continuous explanatory variable (TDT) there were aspects of non-normality because the skewness of TDT was significant ($p < 0.05$).

Table 2 shows the correlation matrix for the explanatory variables. Below the correlation matrix are the multiple correlation coefficients and adjusted R^2. These were obtained by regressing each explanatory variable on all other explanatory variables to gain insight into the degree of multicollinearity among the variables – a method suggested by Johnston,[39] and used by Daley and Vigeland and by Craig .[40,41]

As expected, a high level of correlation existed between the two size variables (Assets and Sales), indicating that multicollinearity would be a problem if both variables were incorporated in the same model. The multivariate correlations of 0.904 and 0.874 (adjusted $R^2 = 0.819$ and 0.763) confirmed a high level of association between these two variables.

The high level of correlation between the different measures of size has also been observed in other studies. To control the effects of multicollinearity, two separate regression models, omitting one variable each time, were estimated.[14,15] There were

Table 2. Correlation among explanatory variables

Pairwise correlation coefficients

Variable	Assets (ln)	Sales (ln)	TDT	MCI	QPAO	SAF
Assets (ln)	1.000	–				
Sales (ln)	0.869**	1.000	–			
TDT	0.676**	0.510**	1.000	–		
MCI	0.319**	0.403**	0.089	1.000	–	
QPAO	0.426**	0.460**	0.163	0.687**	1.000	
SAF	0.316**	0.302*	0.174	0.573**	0.688**	1.000
R^2 (adj.)[a]	0.819	0.763	0.455	0.473	0.603	0.463
Multiple (adj.) R[a]	0.904	0.874	0.674	0.687	0.777	0.679

*Significant at the 0.05 level.
** Significant at the 0.01 level.
[a]Obtained by regressing the variable on all other variables.

also concerns about the degree of correlation among the other remaining explanatory variables TDT, MCI, QPAO, and SAF. However, according to Kmenta, the degree of multicollinearity is high if the "goodness of fit" (R^2) is close to unity.[42] This was not so for these cases. Nonetheless, some caution is warranted in interpreting the regression coefficients.

A stepwise procedure was used by adding one variable each time to the model to determine whether the explanatory power (R^2) of the regression equation has increased significantly (here a 0.05 level).[43] The F-ratio determines the joint contribution of explanatory variables to the variations of the dependent variable (disclosure index), while F_Q determines the influence of each additional explanatory variable to the explanatory power of the model.[42] A variable was not included in the model if its inclusion did not increase R^2 significantly.

A summary of the stepwise procedures is shown in Appendix 2. Both measures of size were not significant even at the 0.10 level. While QPAO was significant at the 0.10 level in model 1, it was not significant at the same level in model 2 (p = 0.105). It is noted that even though the assets variable (model 1) is non-significant it has a negative coefficient; this implies that disclosure compliance decreases with the increase in Assets. However, this negative coefficient can be accounted for by recognizing from Table 2 that Assets are significantly correlated with MCI, QPAO, and SAF. Consequently, the positive impact of Assets on TSDI will be reflected through their correlated (with Assets) explanatory variables.

In the final model, Assets and Sales were omitted as they did not significantly increase the explanatory power of the model. The impact of Assets and Sales will be reflected in a number of the included explanatory variables as a result of correlation relationships. In both models, the inclusion of TDT did not increase the explanatory power of the models. Consequently, TDT was omitted and the other four explanatory variables were included in the multiple regression. The results are shown in Appendix 3.

The final model (Table 3) showed that MCI and the SAF were significant at the 0.05 level and the QPAO was significant only at the 0.10 level. This implies that disclosure compliance was higher for a company which was a subsidiary of a multinational company and whose accounts were audited by a large audit firm, and the accounts were prepared and supervised by a professionally qualified accountant.

The results of this study can be compared with studies undertaken by Wallace in Nigeria[1] and Benjamin et al. in Hong Kong.[2] While Wallace found multinational enterprises with greater equity participation was associated positively ($p < 0.05$)

Table 3. Results of the final regression routine

The regression equation is
TSDI = 0.707 + 0.508 MCI + 0.383 QPAO + 0.444 SAF

	Coeff.	SD	t-ratio	p
Constant	0.707	0.078	9.11	0.000
MCI	0.508	0.235	2.18	0.035
QPAO	0.383	0.215	1.84	0.079
SAF	0.444	0.179	2.49	0.016

s = 0.486; R^2 = 53.1%; R^2(adj.) = 50.7%; F-ratio 22.28; p-0.000; Durbin–Watson statistic = 1.93.

with disclosure compliance, Benjamin et al. did not notice any significant association between disclosure compliance and the size of the companies' audit firm.[44]

To test whether the statutory fitted model was appropriate, a number of diagnostic tests were undertaken. Visual plots and D'Agostino tests provide evidence that the residuals were distributed normally.[45] The Durbin–Watson statistic of 1.93 for the model was not significant at the 0.10 level, indicating that there was no heteroscedasticity present in the residuals. The autocorrelation functions (ACFS) for up to five lags were computed, and were not significant at the 0.05 level. Park–Glejser tests also indicated no evidence of heteroscedasticity.[46]

The estimated model showed that disclosure compliance was significantly associated with whether or not a company was a subsidiary of a multinational company, qualifications of the principal accounting officer of the reporting company, and the size of the company's audit firm. This model can be used to estimate the probability of the degree of disclosure compliance by a reporting company possessing specific characteristics. Based on the regression model, the estimated value of transformed statutory disclosure index (TSDI) ($\hat{y}$) is:

$$\hat{y} = 0.707 + 0.508\ \text{MCI} + 0.383\ \text{QPAO} + 0.444\ \text{SAF}$$

or $$\hat{y} = 0.707 + 0.508 + 0.383 + 0.444 = 2.042$$

This is the estimate of the logarithm of the odds ratio, that is:[47]

$$\hat{y} = \log\left(\frac{\hat{P}}{1-\hat{P}}\right)$$

Therefore $$\frac{\hat{P}}{1-\hat{P}} = e^{\hat{y}}$$

and so $$\hat{P} = \frac{e^{\hat{y}}}{1+e^{\hat{y}}}$$

Substituting the value of $\hat{y}$ in the above equation, $\hat{P}$ is calculated as:

$$\frac{\hat{P}}{1-\hat{P}} = e^{2.042} = 7.706$$

so that $$\hat{P} = \frac{7.706}{1+7.706} = 0.885$$

Thus, if the company is a subsidiary of a multinational company, its accounts department is headed by a professionally qualified accountant and its accounts are audited by a large audit firm, then the estimated probability of compliance would be 0.885, with associated 95 percent confidence interval (0.850, 0.913).

This estimate indicates that there is an 88.5 percent estimated probability of disclosing all statutory items. The 95 percent confidence level for disclosing statutory information by a company with the above attributes is between 85 percent and 91.3 percent. Alternatively, if a company possesses all the above characteristics except that it is a local Bangladeshi company, the estimated probability of disclosure compliance would be:

$$\hat{y} = 7.07 + 0.383 + 0.444 = 1.534$$

Consequently, $\hat{P} = 0.822$, with associated 95 percent confidence interval, (0.765, 0.869)

This implies that the estimated probability of disclosure compliance by a company with these characteristics would be 82.2 percent, an estimated 6.3 percent less probability of disclosing than in the earlier example. If a company is fully owned by Bangladeshi entrepreneurs, its principal accounting officer is not professionally qualified and the accounts have been attested by a small audit firm, the estimated probability of disclosing statutory information is about 67 percent (95 percent confidence level 0.635, 0.703), which is 21 percent less than that of a company possessing attributes in the first example (see Appendix 1 for more details).

The results suggest that the accounting profession should strengthen its compliance and monitoring mechanisms and increase awareness among its members of the existing mandatory disclosure requirements by preparing a checklist of items. Small audit firms should improve their services by reducing the level of non-compliance with mandatory disclosure requirements. In this regard, the reporting practices of large audit firms can be a guidance to these firms. The reporting practices of subsidiaries of multinational companies can be used meaningfully by purely domestic companies in increasing their degree of statutory compliance.

Summary and Conclusions

The research set out to examine the impact of selected key non-financial company characteristics on the degree of disclosure compliance in a developing country, Bangladesh. In particular, the compliance level was assessed against the combined statutory requirements of the Companies Act 1913 and the Securities and Exchange Rules 1987. The results showed that the degree of compliance in Bangladesh was low, since none of the sampled companies complied with statutes by disclosing all mandatory information. Multiple regression techniques were used to show that the degree of disclosure compliance was significantly associated ($p < 0.05$) with subsidiaries of multinational companies and companies whose accounts were audited by large audit firms. The qualifications of the principal accounting officer of a company had less impact ($p = 0.08$) on disclosure compliance. Using the estimated model for predictive purposes, it was found that for a company which was a subsidiary of a multinational company, if its principal accounting officer was a qualified accountant and if the size of its audit firm was large, the estimated probability of compliance was 88.5 percent. Similarly, if a company did not possess any of the above characteristics, the estimated probability of compliance was only 67 percent – a fall of 21.5 percent. To increase the degree of compliance, the accounting profession should strengthen its monitoring and enforcement mechanisms and increase awareness about the existing mandatory provisions by conducting training programs for its members on a regular basis.

Appendix 1: Disclosure Index of Statutory Items

Name of Company	Disclosure index	Name of Company	Disclosure index
Aftab	67.778	Jemini Sea	63.855
Alpha TML	56.000	Jute Spinners	80.952
Aman Sea	53.086	Karim Pipes	61.039
Ambee Pharma	77.500	Metalex	57.647
Apex Foods	76.000	Modern Dye	52.941
Aramit Ltd	92.308	Modern Industries	65.854
Asraf Tex	70.000	Monno CL	81.928
Aziz Pipes	69.412	Monno Jute Stapler	76.250
Bang Auto	70.000	Mono Jutex	84.211
Bangas Ltd	64.198	MPMC	67.857
Bangla Lamps	83.750	National TCL	78.409
Bangla Leaf	55.556	Paper C.P.	72.727
Bangla Proc	63.855	Petro SPL	72.619
Bata Shoes	85.882	Pfizer	76.316
Bengal CL	86.813	Pharma Aids	70.238
Bengle Food	82.927	Pharmaco	52.809
Beximco	88.372	Progressive	70.370
BOL	77.333	Quasem Dry	67.857
BTC	92.000	Quasem Silk	67.470
Burmah EL	82.051	Quasem Text.	65.060
Chand Tex	53.659	Rahim Tex	66.667
Chitt C.C.G.	51.220	Renwick J	67.059
Dhaka Vege	70.588	Robinsons	97.436
Eagle Box	42.105	S.T.M. Ltd	75.610
East Camelia	74.684	Saiham Tex	65.882
Eastern Cables	59.756	Savar Refrec	72.941
Eastern LBL	72.000	Shine Pukur	84.706
Frog Exp	62.667	Singer	84.416
Glaxo	93.506	Stylecraft	51.316
G.Q. Ball	75.294	Therapetics	75.000
ICI	76.623	Usmainia Glass	67.045
Islam Jute	76.136		

Apendix 2: Summary of Stepwise Regression Results for TSDI

Variable entered		R^2	Adjusted R^2	F-ratio	F_0
Model 1 (using Assets)					
1	Assets	0.084	0.069	5.57*	–
2	TDT	0.119	0.089	4.04*	2.42
3	MCI	0.403	0.373	13.28**	28.54**
4	QPAO	0.486	0.450	13.69**	9.52**
5	SAF	0.538	0.497	13.28	6.53**
Model 2 (using Sales)					
1	Sales	0.114	0.100	7.85**	–
2	TDT	0.132	0.103	4.55*	1.26
3	MCI	0.398	0.368	13.03**	26.51**
4	QPAO	0.485	0.450	13.66**	9.96**
5	SAF	0.539	0.499	13.33**	6.80**

*Significant at the 0.05 level.
** Significant at the 0.01 level.

Appendix 3: Results of Regression Tests

Model 1: The regression equation is
TSDI = 0.74 – 0.002 Assets + 0.508 MCI + 0.385 QPAO + 0.444 SAF

	Coeff.	SD	t-ratio	p
Constant	0.740	1.041	0.71	0.480
Assets	–0.002	0.057	–0.03	0.975
MCI	0.508	0.237	2.14	0.036
QPAO	0.385	0.223	1.72	0.090
SAF	0.444	0.182	2.46	0.017

$s = 0.490$; $R^2 = 53.1\%$; R^2(adj.) = 49.9%; F-ratio 16.42; $p = 0.000$; Durbin–Watson statistic = 1.93.

Model 2: The regression equation is
TSDI = 0.492 + 0.012 Sales + 0.50 MCI + 0.369 QPAO + 0.446SAF

	Coeff.	SD	t-ratio	p
Constant	0.492	0.894	0.55	0.584
Sales	0.012	0.049	0.24	0.810
MCI	0.500	0.239	2.09	0.041
QPAO	0.369	0.224	1.64	0.105
SAF	0.446	0.180	2.48	0.016

$s = 0.490$; $R^2 = 53.2\%$ R^2(adj.) = 49.9%; F-ratio = 16.46; $p = 0.000$; Durbin–Watson statistic = 1.93.

Appendix 4: Estimated Probability of Statutory Disclosure

MCI	QPAO	SAF	Estimated $\hat{P}$	95% interval
1	1	1	0.885	0.850, 0.913
0	1	1	0.822	0.765, 0.869
0	0	1	0.760	0.693, 0.815
1	1	0	0.831	0.755, 0.888
1	0	0	0.771	0.670, 0.848
1	0	1	0.840	0.756, 0.898
0	0	0	0.669	0.635, 0.703

MCI: 1 = Subsidiary, 0 = local; QPAO; 1 = professionally qualified, 0 = no;
SAF: 1 = large, 0 = small.

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Curious Auditing Regulations in Nigeria: A Case Study of Cultural/Political Influences on Auditing Practice

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Key words: Auditing; Regulation; Cultural/political influence; Accounting practice

Abstract: *The Auditing profession in Nigeria is at a crossroad. It has changed significantly from strict emulation of the UK practice to becoming an indigenous profession. In this process, the auditing profession with its coordinating body (the Institute of Chartered Accountants of Nigeria (ICAN) has confronted many challenges to its legitimacy. A unique and curious feature of the auditing profession in Nigeria is the introduction of a requirement in the companies law (now amended) that legal practitioners should, as from January 1, 1991, countersign the auditor's report on the financial statements of reporting enterprises. To understand this requirement, its causes and impact, it is useful to review the important elements of the institutional and professional framework of Nigerian financial reporting, including the external auditing process. This paper attempts to do this by using cultural and political factors as well as the professional performance of auditors in Nigeria to explain the rationality or otherwise of the requirement. This paper uses the analysis of the contents of a selection of annual reports in Nigeria to explain how the requirement was operationalized and to discuss its degree of usefulness. Although this paper's description and its evaluation of the significance of this unique requirement are set in Nigeria, the issues it raises are among those most frequently debated at the present time in some similar developing countries.*

No profession exists in a vacuum. Every profession operates within the constraints of its social, economic, cultural, and political environments. The auditing profession in Nigeria is not an exception. That environmental consideration influence accounting and auditing practices all over the world is not questioned (see, for example, Jaggi, 1975; Radebaugh, 1975; Shuiab, 1980; Nobes and Parker, 1991; Cushing, 1987; Bloom and Naciri, 1989; Perera, 1989; Ansari and Bell, 1991. However, when the regulation of auditing in a country (as in the case if Nigeria) is described as "curious,"

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then there is an undertone of a novelty or oddity which makes it a subject of interest. This, therefore, is the basis of the paper.

After a century of British Colonial rule, Nigeria became an independent country on October 1, 1960. This meant that, as most other former British colonies, Nigeria inherited at independence a democratic constitution following the parliamentary democracy practices of the United Kingdom and the many other rules and regulations left behind by the colonial government. A review of the international accounting literature (such as Seidler, 1967; Johnson and Caygill, 1971; Briston, 1978; Walton, 1986) suggests that the state of accounting in former colonies can be traced to their colonial past. This means that the accounting practices in these countries (basically developing) are expected to reflect those of the United Kingdom. But according to Wallace (1992) such assumptions are simplistic and conceal some extremely complex analytical problems. This is because "a study of the ... indigenous accounting profession in Nigeria and the pressures it is now under may provide a basis for the removal of the first layer of meaning in the relationship suggested between Nigeria's colonial inheritance and its present state of accounting." Wallace (1992) reveals that the auditing profession in Nigeria has progressed significantly from its strict emulation of UK practice to becoming an indigenous profession. In this process, the auditing profession with its coordinating body (the Institute of Chartered Accountants of Nigeria (ICAN) has confronted many challenges that have threatened its very existence. This paper uses cultural and political factors as well the performance of auditors in Nigeria to explain the causes of these problems.

The paper is divided into four sections. The first section examines the important elements of the institutional and professional framework of Nigerian financial reporting including the external auditing process. The second section reviews the cultural and political factors that have influenced the recent development in auditing practice in Nigeria. In the third section, an analysis of the contents of recently issued annual reports in Nigeria is presented, and the usefulness of the new requirement is discussed. The last section presents a summary of the paper and examines the implications of the recent developments for the future of auditing in Nigeria.

The Institutional and Professional Framework of Nigerian Financial Reporting

During the colonial period, British accounting were introduced into the country[1] and Nigeria's legal system mirrored the UK pattern (see Parker, 1958). At independence, the Companies Ordinance of 1922 (based on the UK Act of 1908) became Nigeria's Companies Law, which was repealed and replaced by the Companies Act of 1968. The 1968 Act was a marked improvement on the previous law. For example, it made mandatory provisions for accounts and encouraged greater accountability of directors and more effective participation of share holders in affairs of the company.

Despite attempts to assert Nigeria's political and economic independence, the 1968 Act mirrored the UK Companies Act of 1948 to a large extent. Two exceptions are worth mentioning:

(1) the exclusion of the status of the"exempt private company" from the Nigerian Companies Act, apparently taking advantage of the exclusion of the same provision in the United Kingdom by the Companies Act 1967; and

(2) the inclusion of Part X, which required foreign companies intending to conduct business in Nigeria to be incorporated locally.

This mimicking of the UK Company Act was criticized by Nigerians (see Okike, 1985, 1989) for the failure to deal with the rapid economic and commercial developments of the country and for not taking bold steps to deal with peculiarly Nigerian company law problems.

Another defect of the Act, as with previous ones, it its failure to communicate with Nigerians in a simple and comprehensible manner. As Gower (1961: 4, para. 16) reports:

> ... no one, by reading the English Act 1948 can glean a proper understanding of company law. Nowhere are the fundamental principles enunciated. Exception to rules are stated but, all too often, not the rules themselves. These principles and rules have to be extracted from a study of innumerable decided cases – some of which are virtually irreconcilable – and the true position emerges, if at all, only when the Act is read against the background of these decisions.

The need for the reform of the law was heightened by the introduction of the Nigerian Enterprises Promotions Acts, intended to promote the indigenisation of enterprises. The implementation of this exercise revealed the many inadequacies of the Companies Law and it was clear that a more relevant set of principles and legal practice was required. All these, together with the various public concerns with the law, impelled the government through the Attorney-General and minister of Justice to direct the Nigerian Law Reform Commission in 1987 to undertake a review and reform of Nigerian company law.

In addition to this complaint, practical company litigation and procedural matter compel a review of the 1968 Companies Act. In its Report on the Reform of Nigerian Company Law 1988 (Vol. 1, at p. 2), the Nigerian Law Reform Commission commenting on the above inadequacies observed that "with the paucity of Nigerian cases on Company law and the present heavy cost of obtaining English law reports and text books, the difficulty in finding the law in this country can be well imagined ..." This is a testimony to the fact that 30 years after independence Nigeria still referred to England for legal inspiration.[2]

The Committee submitted its report together with three draft decrees which the government accepted and immediately referred to a National Consultative Assembly on Company law for deliberation and recommendation for further action. The Assembly was comprised of leaders of thought and persons with an informed and working knowledge of company law and practice, including lawyers and accountants.

The Consultative Assembly's Report, including a draft decree, was submitted after a year's deliberation. Following this, the government promulgated the Companies and Allied Matters Decree 1990 (No. 1 of 1990) (CAMD 1990 henceforth) with effect from January 2, 1990.

Before discussing the curious provisions of this decree, it is worth mentioning that the final legal document which arose from the dual and consecutive deliberations of the Law Reform Commission and the Constituent Assembly was a carbon copy of the UK Companies Act 1985. The only extraneous additions are the curious and

contentious ones. Could this be the Nigerian factor? The curious provisions include peculiar provisions relating to the issues of appointment of auditors, auditors' reports, the services which auditors can perform, and the potential threat to the monopoly of the market for auditing services by members of ICAN. As to the auditor's report, a peculiarly Nigerian innovation was the requirement that the report should be *countersigned* by a legal practitioner (section 359 (2)). The discussion of this and other curious issues will follow after a review of the regulation and practice of auditing in Nigeria.

The Origin of the Auditing Profession in Nigeria

While accounting and auditing practices in Nigeria can be traced to the time when the first Companies Ordinance (1922) was enacted, no locally trained and educated accountant was produced before 1960 from Nigerian Colleges of Higher Education which started to train Nigerians for UK accounting examination in 1950 (Wallace, 1987: 297). A law founding the accounting profession in Nigeria was passed in 1965 by transferring a private professional body founded in 1960 into ICAN.[3]

Influence of International Accounting Firms

Professional accounting practice in Nigeria is greatly influenced by international accounting firms. From 1927, when a UK firm first founded an office in the country, to the present day, the market for auditing services has been largely monopolized and nurtured by foreign firms. In addition to the Big Six firms located in the country, many of the middle 15 international firms are also present. Most of the foreign firms are managed by Nigerian partners. The first Nigerian partner in a foreign firm was appointed in 1966 by Cooper Brothers. There are also accounting firms founded by Nigerians which are competing effectively with the Big Six. One firm (Akintola Williams & Co.) founded by a Nigerian is now not only affiliated to Touche Ross, but is also the sole representative of Deloitte Ross Tohmatsu (DRT) International in Nigeria.

Regulation of Auditing Practices in Nigeria[4]

Although there was no real demand for company audits in Nigeria, the Companies Act 1968 anticipated a demand for a service which was to be provided by a "class" of experts – specifically, members of ICAN. Thus the right to claim a market is more a function of technical expertise and British heritage than a Nigerian local need. To reserve the entire and growing audit market to an untried professional body at a time when the country was in formation is questionable. However, there was no direct regulation of the market for auditing practices in Nigeria before 1990 when ICAN started issuing auditing guidelines. Most audit firms depend on generally accepted auditing practices reported in various manuals of the international auditing firms to which they are affiliated. Probably due to pressure from clients and reports of unethical behavior and inefficient audit practice, ICAN created an Auditing

Standards Committee (ASC) 24 years after its foundation (1989). However, the belatedness of such an action was confirmed by the events of 1990, to be discussed later. The ASC of ICAN has issued two standards, and a *Preface to Auditing Standard and Guidelines*. The standards are:

AG 1 – Auditing Guideline on Engagement letters.

AG 2 – Auditing Guideline: Prospectus and the Reporting Accountant.

In addition, ICAN has established a Professional Practice Monitoring Committee, which would not only monitor and conduct periodic review of work done by ICAN members, but also will offer advice and assistance as deemed necessary. ICAN conceives that "the existence and use of generally accepted auditing standards and procedures will promote acceptability and confidence in the financial statements audited by [its] members", and cautions its members to note that "a court of law may, when considering the adequacy of the work of an auditor, take into account any authoritative pronouncement of good practice ... [and] the Auditing Standards and Guidelines issued by the Institute are likely to be so regarded" (ICAN, 1990).

The preceding analysis of the development and activities of the accounting profession in Nigeria reveals that the auditing profession in Nigeria was tending towards self determination.[5] ICAN has an established scheme for the accreditation of accountancy courses conducted by universities and polytechnics in the country, as well as those of students taking the professional examinations of the Institute. Between October 1974, when the Institute assumed full control of the conduct of its examinations, and June 1991, 4300 candidates completed the professional examinations and became members of the Institute. At present, there are more locally than overseas educated and trained accountants within the membership of ICAN, which now totals 6050. In addition, there are over 25 000 on the register of students. The examinations of the Institute are now held in over 15 states of the Federation and in London. Negotiation are currently in progress for ICAN to provides professional examinations for some neighboring West African states. If this happens, ICAN could be said to have come of age as an independent professional body exporting its qualifications. However, there are unavoidable problems, challenges, and responsibilities associated with maturity, and coming of age. The auditing profession in Nigeria has recently encountered difficulties and problems that have threatened its very existence and survival. In the following section the reasons behind its predicament are examined within the cultural and political context.

Cultural and Political Factors Influencing Recent Developments in Auditing Practice In Nigeria

Nigeria is a country with a rich cultural heritage. It has diverse customs, languages, and cultures. There are over 200 ethnic groups which cluster into several major (or broad) classes, each with a distinctive unifying language, with Hausa, Ibo and Yoruba being the most significant (Wallace, 1990). Despite this seemingly large number of ethnic groups, there is a point of convergence where the diverse customs become identical – the demand to show respect for elders, loyalty to family, village, and

tribe (in that order). This cultural behavior which can best be expressed as "live and let live", has had, and will continue to have telling effects on the independence and professional attitude of the Nigerian chartered accountant. Cultural influences on accounting have been a recurrent feature in accounting literature.[6]

In a changing economic environment, culture tends to shift, interfacing with the progress of a country and diffusing with cultures of other countries as a country links with the community of nations. Nigeria has had its own transformation (political, economic, and sociological) since independence. These changes include experimentation with different styles of government (parliamentary democracy, UK style; presidential democracy, US style; and military dictatorships of different kinds), different economic experiences (from a poor agrarian, cash-crop economy to an oil-based economy), and changing fortunes of the people – from poverty, through civil war, affluence, to crippling depression, and many ethnic tensions. This transformation within the Nigerian economy has significantly influenced the accounting profession in many respects.

With changed fortunes from growing oil revenues, Nigeria became a country of rapid economic development. Every sector of the economy was a possible target for growth and development. This created an increase in the demand for accounting skills and talents. All these meant (and still mean) more work for the chartered accountant in Nigeria. He/she is wanted as an employee, auditor, valuer, management consultant, and reporting accountant for prospectuses. In addition, he/she has often been appointed to serve on many probes of personal assets and on corporate investigations for ill-gotten gains because by virtue of his/her training and experience, he/she is able to unravel complicated financial arrangements.

As a result, accountants in Nigeria have become by default "Jacks of all trades" (and probably "Masters of a few"), to the exclusion of other professions. Consequently, the accounting profession became the target of envy and a breeding ground for silent enemies from both within and outside the profession. From within the profession, because of the "winner takes all" attitude prevalent amongst the big audit firms with international affiliation; and from outside the profession because as the accountant moves away from auditing his/her comparative advantage can be challenged by other professionals. CAMD 1990 confronts this problem directly, in respect of what have been previously described as curious. Three important provisions of CAMD 1990 with potential negative consequences for Nigerian chartered accountants – those which relate to the validity of audit reports, the independence of auditors and the encouragement provided for the creation of other accountancy professional bodies to compete with ICAN – will now be discussed.

Section 359(2) of CAMD 1990 states that "the auditors' report which shall be *countersigned by a legal practitioner* shall state the matters set out in Schedule 6 to this Decree" (emphasis added). Schedule 6 requires the auditors to confirm that:

(1) all information and explanations have been obtained;
(2) proper books of accounts have been kept;
(3) books of account are in agreement with balance sheet and profit and loss account;
(4) in their opinion, and to the best of their information and explanations given, the said statements give the information required by the Decree, viz. balance sheet

> stating company's affairs, and profit and loss account stating the profit or loss for its year; or as the case may be, a true and fair view subject to the non-disclosure of any matters required to be disclosed.

Before these issues are discussed, it is pertinent to mention that there is a suggestion by senior members of ICAN (see Ani, 1990) that the provision regarding counter-signing by Legal Practitioners of auditors' reports was not in the final draft of the Decree which was submitted to and approved by the Armed Forces Ruling Council (AFRC). According to Ani (1990:11)

> There is the feeling that while the ICAN team at the Assembly did a magnificent and commendable job, the Council of ICAN failed to seize the initiative to monitor the implementation of the Assembly's recommendations. Other bodies whose views were not accepted by Assembly successfully lobbied the Ministry officials and their views were included in the Decree to the detriment of ICAN.

This is an illustration of the Nigerian cultural factor. If Ani's assertion is correct, this indicates that at very high level in the Nigerian scene matters of crucial importance to the future of the country can be manipulated in the hands of politicians and civil servants (see Gormley, 1985). Documents drafted by the Law Reform Commission, and confirmed by the Assembly and the AFRC, miraculously feature extraneous and undiscussed provisions at the final printing stage. However, CAMD 1990 carried the "offending" provision, and for one year before its repeal, the auditors and client' companies experimented with its requirement. What ensued from the experimentation was chaos and indeterminacy[7] and this probably hastened its demise.

Before discussing the first year's experience of this provision, it is also necessary to discuss briefly the other curious (albeit short-lived) provisions.

Provision of Non-auditing Services

Section 358(2)(c) (now repealed) was an attempt to prevent auditors in Nigeria from performing other non-auditing services for a client company. The section states that the following shall not qualify for appointment as an auditor of a company:

> A person or firm who or which offers to the company professional advice in consultancy capacity in respect of secretarial, taxation or financial management.

This provision probably sought to enforce the independence of auditors, which was not apparent from the fact that the auditing function is undertaken by an auditor who also provides financial and other related consultancy services.[8] There seem to be strong arguments on both sides. From the political perspective, the argument is that such dismantling of multiple services provided by an accounting firm to a client company allows the client company to employ other firms rather than stay indefinitely with the same accountancy firm for the provision of all services. The economic argument is that it is in the interest of a client company not to give its jobs to more than one accounting practitioner. It would be most inconvenient for such a user to open its books to more than one set of professional accountants. This rule is at variance with the free market philosophy of the government. The users know their market and where to get the best services.

The Threat of a New Professional Body

CAMD 1990 had used the key words "or any similar body" to amplify the words "the Institute of Chartered Accountants of Nigeria" anywhere the latter set of words appeared in the Decree. This addition of "or any similar body" did not apply to other professional bodies mentioned in the decree. For example, Section 2 of the Decree granted unrivaled (or rather unthreatened) existence to other professional bodies, such as the Nigerian Bar Association, the Manufacturers Association of Nigeria, the Nigerian Labour Congress, and the Institute of Chartered Secretaries and Administrators. It may be argued that these other organizations have no known rival bodies. But they are all private organizations with no statutory backing. The inclusion of their names in the Decree is a legitimization of their existence. In contrast, ICAN, which is a statutory organization, seemed potentially threatened by the implicit statutory support for the creation of new accounting professional organizations.[9]

The following section discusses the experimentation with the provisions of section 359(2).

Analysis of Selected Legal Practitioners' Reports

To determine how the requirement of section 359(2) of the CAMD 1990 was operationalized, 20 annual reports[10] of publicly quoted companies issued in compliance with this Decree were selected, and the contents and pattern of the legal practitioners' attestations examined. The examination reveals varying practices and portrays a mockery of whatever might have been intended by the Decree. As a framework for analysis, it is essential to define operationally the requirement that the auditors' report "shall be countersigned by a legal practitioner". Countersigning can be the perfunctory function of merely signing the auditors' working papers to confirm that sufficient work has been performed by the auditors to reach an opinion upon which there report is based. Between these two extremes might be the attestation that auditors have produced evidence to the legal practitioner (to the effect that they (auditors) have been shown books of account by their clients and have worked on those books. Each definitional construct can be examined from the wordings of the legal practitioners' attestations.

The procedure for examination was to study each report for its critical relevance to the overriding goal of ensuring that auditors' reports mean what they say. Tables 1 and 2 show respectively, the contents and styles of the legal practitioners' attestation and the location of the attestation in the annual report.

Table 1 reveals the variation in understanding the requirement of Section 359(2) of CAMD 1990. Some legal practitioners attested to the fact that accounts (which they have not examined and audited) were prepared from the companies' records. This, in fact, could not have been the intention of the requirement to countersign the auditor's work; it is a blank certificate of the veracity of the annual report. Some legal practitioners attested that the auditors have "indeed" complied with CAMD requirements. How could this be done without reviewing the auditors' working papers? This in fact is an indirect way of absolving auditors from potential liabilities. This is

Table 1. Contents and styles of legal practitioners' attestation

Contents and style	No. of occasions[11]
1 Accounts have been prepared from the company records and from additional information given to the auditors	6
2. Auditor's report complies with CAMD 1990	7
3. Auditor's report complies with CAMD and is countersigned by legal practitioner	2
4. Report does not refer to *the auditors'* compliance with CAMD 1990	8
5. Attestation confirms that auditors have complied with CAMD 1990	1
6. Use of the word "countersign"	11
(a) Countersigning with a statement	5
(b) Countersigning only and no statement (one even used a rubber stamp to do this)	5
(c) Countersigned as "true and correct"	1
7. Indication of actual examination of auditor's report	1

Table 2. Location of legal practitioners' statement

Loose sheet inserted in the annual report	1
Below auditors' report	15
Separate page after auditors' report	4
Total	20

obviously not what was intended and the legal practitioners do not have the competence to do so[12] (see Dezalay, 1991). One legal practitioner actually went so far to state that the auditor's report was "true and correct". The most ingenious and parsimonious were those that simply stated that the auditors report are accordingly "countersigned". Brevity is obviously essential in ambiguous situations.

The newness of this provision and its peculiarity makes its location in the annual report a feature of ingenuity. One report was, in fact, an afterthought and was only inserted as a loose sheet after the report had been printed. Fifteen were located below the auditor's report and pointedly indicate a direct relationship to that report. Four others were located a page after the auditor's report.

Six illustrations of these attestations, are reproduced below.

(1) We confirm that pursuant to Section 359(2) of Companies and Allied Matters Decree 1990, we have countersigned the Auditors' Report on the annexed Statements of Accounts which, to the best of our knowledge, information and belief, were prepared from the record of the above-mentioned company and from additional information and explanations given to the Auditors of the Company.

(2) Pursuant to section 359(2) of the Companies and Allied Matters Decree 1990, we certify that to the best of our knowledge, information and belief, this report was prepared in compliance with the said Decree and accordingly we hereby countersign the report.

(3) This is to certify that the annexed Auditor's Report prepared for ... by ... & Co. Chartered Accountant for the year ended 31st December, 1990 complies with Companies and Allied Matters Decree 1990 in all respects.

I hereby counter sign the same as true and correct Auditor's Report of ... PLC for the year ended 31st December, 1990.

(4) We have examined the Auditors Report prepared in respect of ... by ... & Co.

We hereby Certify that the said Report complies with the Companies and Allied Matters Decree, 1990, in all material respects.

(5) The annexed Statement of Accounts have, to the best of my knowledge, information and belief, been prepared from the records of the above-named Company and from additional information and explanation given to the Auditors of the said Company.

(6) We hereby declare that matters required to be expressly stated in the Auditors Report in accordance with section 359(2) and Schedule 6 of the Companies and Allied Matters Decree, 1990 have been duly complied with in respect of the Annexed Statement of Accounts.

Because of the ambiguity of the requirement of section 359(2) and the apparent confusion with its implementation (as revealed in Tables 1 and 2), it was obvious that an amendment was necessary. Besides, members of the ICAN had made representations to the Nigerian President, General Ibrahim Babangida, and he had assured ICAN and its members in his speech declaring open the Silver Jubilee Conference of ICAN on August 30, 1990, that

> in order not to undermine the confidence of the International Business Commnunity ... the representations made by (the) Institute for necessary amendments to the "Companies and Allied Matters Decree 1990" have been seriously considered. (ICAN, 1990:6).

Therefore, it has not come as a surprise that the provision of section 359(2) of CAMD 1990 which required legal practitioners to countersign auditors' reports is now amended. Section 359(2) of CAMD 1990 was repealed on November 18, 1991 by the provisions of the Companies and Allied Matters (Amendment) Decree 1991. The commencement of the revocation decree was backdated to 1st January 1991. This retrospective act has made the whole episode and investment in learning how to cope with the countersigning process futile.

Conclusion and Comment

Inasmuch as members of the accounting profession in Nigeria can be relieved over the amendment of section 359(2) of CAMD 1990, the issues raised by the promulgation of that Decree are serious. This is not the time for accountants to celebrate victory. This is the time for members of the profession to undertake a self-examination of its activities in the country and to address objectively the issue of how to ensure professional accountability. In the words of the immediate past President of the ICAN (Mr Ayo Oni):

[members of the profession] are now in the limelight and the searchlight is on [them]. The public is looking up to [members of the profession] for leadership in respect of public accountability. [Members of the profession] cannot afford to fail. (ICAN, 1990: 7)

The auditor's duty in society is, among other things, to ensure accountability to all facets of the economy. However, when such an important duty is relegated to the background in pursuit of other selfish objectives, then members of the auditing profession must be ready to face the consequences. The assertion has been made (Radebaugh, 1975: 50) that:

If the accounting profession in a country is relatively sophisticated and appears to be meeting the needs of the users, the government may not interfere very much: Where the government as an important user of information does not feel that the accounting profession is meeting the needs of users, and does not foresee much change in the future, it will probably take a much more active role in setting or influencing the development of accounting objectives, standards and practice.

Ample evidence abounds (see Wallace, 1987, Chapter 8; Adesina, 1990; Ejimofor, 1990; Ekeigwe, 1990, 1991) that the investing public is dissatisfied with the performance of auditors within the Nigerian economy. This dissatisfaction is affirmed in the following ways:

(1) The formation by shareholders in Nigeria of a body known as the Nigerian Shareholders Solidarity Association (NSSA)[13] whose aims and objectives (among others) are:

(a) to promote the interest and welfare of shareholders in publicly quoted and unquoted companies in Nigeria;
(b) to ensure just and equitable management of publicly quoted and unquoted companies in Nigeria;
(c) to arrange seminars and/or lectures for the enlightenment of shareholders;
(d) to help eradicate corruption, nepotism, victimisation, immorality and all other social and economic vices from (the Nigerian) society;
(e) to liaise with governments and the Nigerian Stock Exchange (NSE) on matters of interest to shareholders, in particular, and the Nigerian economy, in general.

These are noble objectives indeed, and the issue is not how members of the NSSA intend to accomplish them[14] (since, as the auditors, they operate within the same complex Nigerian society), but rather, what implications these objectives have for the auditing profession in Nigeria. Obviously, shareholders in Nigeria are conveying a message which the auditing profession must receive with appropriate attention.

(2) The provision of section 359(3) of CAMD 1990 which requires auditors of public companies to report to an audit committee[15] which shall be established by all public companies. The audit committee shall examine the auditors' report and make recommendations thereon to the annual general meeting as it may think fit.

Granted that auditors in Nigeria have been deficient in maintaining the standards of excellence required by virtue of their profession and training, requiring an auditor's report to be countersigned by a legal practitioner is not the best way to achieve audit effectiveness and corporate accountability. The mere signature of a legal practitioner who has no technical training and proficiency in accounting and has not examined the financial records of the company cannot ensure the integrity of financial statements.

While it is essential to place accounting and auditing in its appropriate social context, governments of developing countries cannot operate in isolation and must seek to accord with norms of professional behavior. The Nigerian experiment is a total departure from global norms.[16] However, the auditing profession in Nigeria needs more than ever before to restore public confidence in its role of ensuring public accountability. This is the time for ICAN and its members to reappraise their role in the society. This point is further emphasized by the Senior Partner (Chief Ani) of the oldest and largest accounting firm in Nigeria (Peat Marwick Ani Ogunde), who cautions that "ICAN must look inwards and carry out a thorough house cleaning exercise to brighten its image and restore public confidence" (Ani, 1990: 11).

Notes

1. Wallace (1992) reported that the first qualified accountant Mr. Charles Ernest is believed to have arrived in Nigeria in 1905. He was an incorporated accountant, who served as the first treasurer and Financial Commissioner to the Colonial Government of Nigeria.
2. This is also true of many other countries, for example Australia.
3. For a historical analysis of the establishment of an indigenous accountancy profession in Nigeria, see Wallace (1987, 1992).
4. This section provides a summary of the historical synthesis by Wallace (1987, 1992).
5. In the beginning (1968–1973), ICAN sought the assistance of the Overseas Accountancy Examination Advisory Board in the United Kingdom for the conduct of its examinations. Thereafter, ICAN assumed full control over the conduct of its examination, and developments have since occured apace.
6. A number of studies have been undertaken to explicate the influence of culture on accounting and auditing practices. See Jaggi (1975), Radebaugh (1975), Taylor et al. (1986), Bloom and Naciri (1989), Karnes et al. (1989), Perea (1989), among others.
7. The Decree was severely criticized on the grounds that it was evasive over a number of issues in relation to the implementation of the provision of section 359(2). The Decree did not state what role the legal practitioner is expected to play in the actual examination of the company's books and records; neither does it state which legal practitioner should countersign the auditor's report – the client company's or the auditor's. In addition, by the provisions of section 368(2) the legal practitioner is absolved from legal liability for negligence in the issuance of auditor's report.
8. This problem is not unique to Nigeria. The issue of auditors maintaining their independence while providing non-audit services to client companies has featured prominently in auditing literature. Previts (1985), for example, discusses this problem in relation to the profession in the United Kingdom and the United States.
9. Wallace (1987, 1992) discusses two organizations whose activities pose a real threat to ICAN. They are the Association of National Accountants of Nigeria (ANAN) and the proposed Institute of Public Sector Accountants (ISPA). The arguments for and against the proliferation of the profession in Nigeria are detailed by Wallace.
10. The annual reports of all publically quoted companies issued between January 2, 1990 and December 31, 1990 were expected to reflect the provisions of section 359(2). However, as at the time of conducting this investigation (June 1991), only the annual reports of those companies with a financial year ending between January 1990 and May 1990 available to the author were used – hence this relatively small sample.
11. The total number of occurrences exceeds 20 (the total number of annual reports) because some specific words and phrases in the legal practitioners' attestation appear more than once.
12. Freedman and Power (1991) discuss the interface between the disciplines of law and accountancy. Although it is becoming increasingly clear that two disciplines are "increasingly interrelated ... in response to the growing sophistication of financial markets" (p. 770), nevertheless, lawyers do not have sufficient knowledge or the expertise required to authenticate auditors' working papers/reports.
13. The NSSA was inaugurated on December 1, 1987. This writer held an interview with the current president of the NSSA (Mr Akintunde Asalu), who suggests that his organization was formed because shareholders in Nigeria could no longer trust auditors to protect their interest in corporate affairs.
14. A report in the *Daily Times* of October 17, 1989 indicates that the activities of the NSSA are already a cause for concern to the Nigerian financial community. This report states that "the Shareholders

Association of Nigeria is well organized and they have constituted themselves into a pressure group. They have rejected the yearly accounts of some companies, opposed the reappointment of some directors and had gone to court to stop planned mergers."

15. The committee is to consist of an equal number of directors and representatives of shareholders, subject to a maximum number of six members.
16. To the knowledge of this author, Nigeria is the only country *in the world* that has made such a provision.

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The International Journal of Accounting

Book Reviews

International Classifications of Financial Reporting *by Christopher Nobes. Routledge, London, 2nd edn. ISBN: 0-415-07090-2, 153pp, £40.00.*

Originally culled from his PhD work, the first edition of this book was published in 1984 when Chris Nobes was at the University of Strathclyde. In his own words, "much has changed since the first edition": the European Economic Community (EEC) is now the European Community (EC) and the Fourth and Seventh Directives have been implemented, standard setting has changed and the Big Nine accountancy firms have become the Big Six; all these changes have affected accounting, precipitating further analysis to be done to the original work in the first edition. Also Chris Nobes has moved on to the University of Exeter.

Following Gerhard Mueller's pioneering work in 1967[1] to study international comparative accounting by the use of a classification system, to describe and compare different accounting systems, the second edition of Nobes (1992) attempts to advance the classification work by providing it a conceptual footing. The book suggests a classification system that adds a hierarchical integrity to the effort. Chapter 1 offers a bird's eye view of the rest of the book.

Chapter 2 traces the causes and nature of the differences in international accounting practices. This leads to a hypothesis formulation which the author admits "is difficult to test" although this was tested and the results are discussed in Chapter 7. The causes are attribute to differences in legal systems, business organization and ownership, stock exchanges, taxation, the accounting profession, and other influences. The nature of the variations are furthermore assigned to accounting principles such as conservatism, historical cost, nature of provisions and reserves, consolidation, uniformity, and accounting plans.

Chapter 3 discusses the purpose, rules, and problems of classifications in other disciplines, principally the physical sciences. Classification is seen as a way to sharpen the description and analysis and as an aid to reveal the underlying structures. There are many ways to classify: dichotomous, ranking, multidimensional scaling, systemizing, and morphological structuring. The author opts for the "morphological" structuring (from biology). The reason for this choice is stated on page 86 as "the most parallel for our purpose is biological classification" because "biologists use a very sophisticated and detailed classification system which has a lengthy history".

Chapter 4 addresses in detail both earlier and recent accounting classifications, beginning with Frederick Choi and Gerhard Mueller's 1978[2] emphasis that the "types

of accounting rules which exist in a country are a product of economic, political and other environments". They cast doubt on harmonization, arguing that the other country's rules will not necessarily fit another country although the author discusses the harmonization debate in Chapter 8. The Chapter also discusses the American Accounting Association's 1977 "morphology" for establishing accounting standards and ends with a discussion of spheres of influence.

Chapter 5 reviews the work on classifications conducted by various researchers, mainly using the Price Waterhouse International (PWI)[3] surveys of 1973, 1975, and 1979. The chapter analyses and critiques the studies of Da Costa, Bourgeois, and Lawson (1978)[4] and Frank (1979);[5] both studies used the 1973 PWI survey. It also discusses Nair and Frank (1980),[6] whose research used both the 1973 and 1975 PWI surveys; and finally Goodrich (1982),[7] who utilized PWI's 1979 survey and produced results which are criticized by Chris Nobes as "it is hard to take seriously a classification that puts Australia in the same game as Japan and Columbia, and not with the UK and New Zealand".

The chapter concludes with substansive criticisms of the datd in the PWI surveys and suggests improvements.

Chapter 6 continues the author's criticism of the PWI data and proposes a new hypothetical hierarchical classification by "borrowing" terminology from biology and earlier classifiers.[8] Some tests are conducted on this new hypothesis. Nobes (1992) claims that the superiority of this new classification and test result from "several years of reading books about, studying financial reports from, teaching on and (in some cases) teaching in the countries concerned".

The aim of Chapter 7 is given as the identification of the vital differentiating factors in accounting measurement systems based on earlier work and other research findings. For instance, the chapter discusses the differences in accounting standards between the United Kingdom and the United States with respect to issues such as deferred taxation, research and development, and currency translation. Factors such as language and political systems are ruled out as either "too far removed from accounting" or "vague" to be usefully discriminatory. Using factor analysis and a new clustering system, a series of tests were made using the PWI data. These tests result in the division of the international accounting universe into two main parts – "micro" and "macro" classes – and confirm the main causal differences as originating from four factors: tax, conservatism, objectivity, and the users.

Chapters 8 and 9 are new chapters in the second edition and claim to represent, respectively, "comments on 1980 work" and "developments in the 1980's". Chapter 8's refence to "the 1980 survey" cannot be traced anywhere in the book/bibliography. Perhaps the author is referring to the work reported in Chapter 7. The chapter discusses the company law directives of the EC designed to bring about harmonization in financial reporting. However, an important note in this chapter is a guide on further research in four areas: further work on the classification, inclusion of other Western developed countries such as South America, extension of the classification to include non-measurement characteristics, and to tailor the classifications for particular persons/organizations.

The purpose of Chapter 9 is given as bringing this book up-to-date for the decade up to to the end of 1990. The chapter discusses published research, mainly those

already mentioned in Chapter 5; what the author terms "second thoughts on classification system"; changes in accounting practices leading to potential reclassification; and finally a classification of regulation in accounting.

Overall the book makes a valuable contribution to the discourse on international accounting but it is economical on details and the whole book would benefit from a rearrangement of chapters. Other minuses include the references to the PWI survey of 1975 (or is it 1976?).

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7. Goodrich, P.S., 1982 "A Typology of International Principles and Policies." *AUTA Review* (Spring, 1982).
8. Needless to say, "morphology" was used by the AAA in 1977 before the author embarked on his research.

INSTRUCTIONS FOR AUTHORS

1. Manuscripts should be submitted in triplicate to the Editor, Professor V K Zimmerman, The International Journal of Accounting, 320 Commerce Building (West), University of Illinois at Urbana-Champaign, 1206 South Sixth Street, Champaign, Illinois 61820, USA.

2. The language of the journal is English.

3. Text should be typed double spaced on one side of the paper. A 3cm wide margin should be left at both sides of the text, 4cm wide margins at top and bottom of page. There is no maximum length for contributions but authors should write concisely.

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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__________. "Financial Statements Restated for General Price Level Changes." Statement of the Accounting Principles Board No. 3. New York: AICPA, 1969.
Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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CONTENTS

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AIMS and SCOPE The Aims of *The International Journal of Accounting* are to advance the academic and professional understanding of accounting theory and practice from an international perspective and viewpoint. The *Journal* recognises that international accounting is influenced by a variety of forces, e.g. governmental, political and economic.
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The Setting of Accounting Standards: Canada, the United Kingdom, and the United States

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Key words: Adaptation; Crisis; Plasticity; Standard-setting; Structure; Viability

Abstract: *The paper is a comparative study of the quest for viability by the Accounting Standards Committee in Canada, the Accounting Standards Committee in the United Kingdom, and the Financial Accounting Standards Board in the United States. It also attempts to identify some of the major factors that have contributed to a recent restructuring of Accounting Standards Committees as Accounting Standards Boards in Canada and the United Kingdom. Hopefully, comprehensive conceptual foundations supporting the study and its general findings will be relevant to the standard-setting agencies worldwide.*

A standard-setting agency is a social choice system. As such, it is surrounded in an environment, by other organized complexes and other activities with different goals and interests. Unfolding in their own ways, they can disturb its form and destroy it. This creates a problem for the agency – the problem of how to survive and, therefore, the problem of how to maintain its viability in the face of varied environmental influence and pressures.

This paper is a comparative study of the quest for viability by the Accounting Standards Committee (AcSC) in Canada, the Accounting Standards Committee (ASC) in the United Kingdom,[1] and the Financial Accounting Standards Board (FASB) in the United States. To this end the paper:

(1) presents a model of a standard-setting agency as an adaptive system;
(2) identifies financial accounting and reporting objectives in the three countries and considers the nature and role of accounting standards;
(3) inquires into the major problems of standard-setting;
(4) outlines standard-selling approaches of the AcSC, the ASC, and the FASB; and
(5) offers an assessment of the viability of the agencies in question.

Accepted for publication: July 21, 1993

1. A Model of an Adaptive Standard-Setting Agency[2]

Standard-setting agencies both influence and are, in turn, influenced by their environments. In order to survive, they must have a capacity to adapt to the changes in their environments. A model of such an agency is presented in Figure 1.

In the model an agency exists within a certain domain that is separated from its environment by boundaries. The boundaries do not completely isolate the agency from its environment. There are breaks in the boundaries through which the agency assimilates and disassimilates the requisite variety and thus in effect is regulated by its environment. The agency receives inputs in the form of demands and expectations for standards as well as various forms of support and opposition, transforms these inputs into outputs, of which proposed standards are of special significance to this paper, and sends them back to the environment. These outputs, in turn, become inputs into the agency's environment which, having evaluated their impacts, sends a new round of expectations, demands, and support to the agency. The process is repeated until a consensus on standards is reached or the agency's proposals are abandoned.

Two types of environments are distinguished in the model:

(1) general environment
(2) systemic environment.

The first includes technological, economic, political, legal, and cultural systems within which all social complexes exist. The general environment of the standard-setting agencies in the three countries in question is quite similar. The agencies

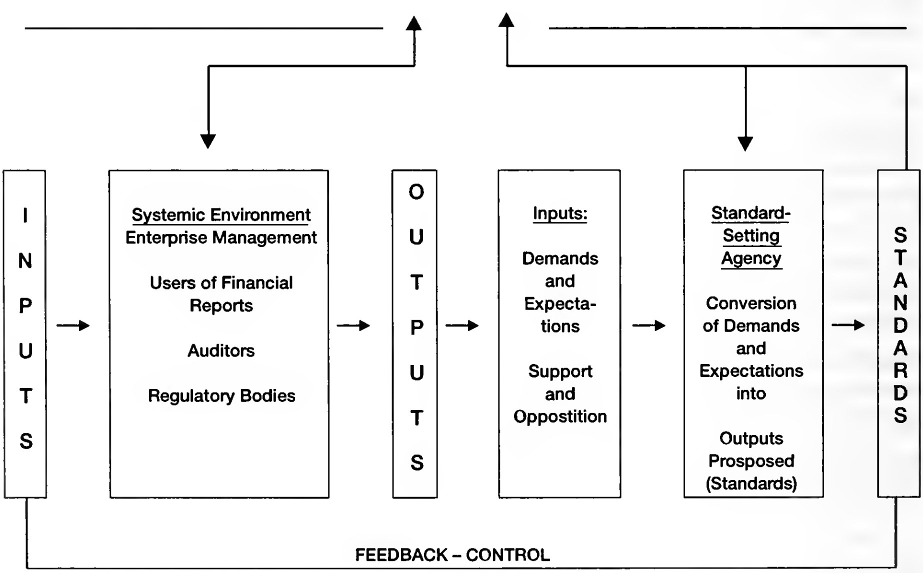

Fig. 1. A model of a standard-setting agency as an adaptive system. General environment (technological, economic, political, legal, and cultural systems).

share common language, fundamentally common political and economic systems, and common accounting practice. The main environmental differences affecting accounting lie in the size of economies and legal and cultural systems. The American economy is much larger and its legal environment is much more litigious than that in Canada or the United Kingdom (Benston, 1975; Canadian Institute of Chartered Accountants (CICA), 1978). American institutions are also more open to public input and debate than their counterparts in Canada and the United Kingdom.

Systemic environment embraces all those complexes that closely interact with the agency. The enterprise management, users of financial reports, auditors, and such bodies as the Securities Exchange Commission (SEC) in the United states, Provincial Securities Commissions in Canada, and the London Stock Exchange in the United Kingdom, are the major elements of the agencies' systemic environments in the three Countries. To survive, the agency must be adaptive, i.e. it must be able to produce standards that are generally acceptable. The agency that fails to achieve this faces one of the following three basic scenarios:

(1) The agency survives by modifying its own operations in order to produce the desires standards.

(2) The environment changes or modifies its requirements to accommodate the agency and the agency survives.

(3) The agency is replaced by a more appropriate standards-setting mechanism.

The feedback-control mechanism provides the agency with information on deviation of the actual state of standards from that expected by the environment and thus enables the agency to adjust and also to influence the environment to accommodate the agency. In the case of adaptive agencies, therefore, generally acceptable standards result out of coaction of the two interacting complexes – the agency and its environment.

In common with other systems, the viability of a standard-setting agency, i.e. its ability to cope successfully with the environment, is a complex result of its stability, its plasticity, and its environment. The stability of an agency is relative. It is determined first of all by the magnitude of its financial and human resources. With other things being equal, the agency endowed with larger quantities of such resources will be more stable and, therefore, last longer than the one having fewer such resources.

The agency's stability also depends on the nature of its structural links, i.e., on the agency's structural stability. Generally compact structures provide better protection against the destructive forces of the environment than the diffused ones. Thus, for example, a centralized organization is more compact and, therefore, more likely to ensure the agency's survival in hard times, the reign of negative environment influences, than a decentralized organization. The latter is more appropriate for the development and preservation of the agency in times of prosperity.

Organizational plasticity of an agency, i.e. the capacity to form new couplings and regroupings of its element, is also essential to its survival and further development. The more plastic is the agency, the greater is the number of combinations that can be created within it in response to environmental changes, the richer is the material of selection, the faster and fuller is its adaptation to new conditions. To be viable, the agency must also be independent of any special interests. In the United States,

the importance of independence "has been demonstrated both by the allegations of client influence that contributed to the demise of the Accounting Principles Board, and by congressional challenges to the independence of the Financial Accounting Standards Board" (Sprouse, 1983, p. 55).

Agencies are usually exposed to uneven environmental influences at their various points. Therefore, if the magnitude of external influences is changing or if the structure of the agency itself is changing, then it is sufficient to have the relative stability of any of the systemic parts to fall below a critical level during a period of time, no matter how short, for a destructive process to occur. Thus, for example, a giant who falls asleep but for a moment can be easily killed by a weakling. It follows, therefore, that the stability of the whole depends on the least relative stability of its parts at any moment of time. Since both the environment and stability of a standard-setting agency change over time, its overall viability cannot ever be absolute but only relative. Therefore, the agency cannot resolve the question of its viability once and for all, but must address it continually.

Essentially, a standard-setting agency is driven by legislative, economic, and political forces. The ever-increasing variety of demands created by these forces drives the expansion of the agency's own variety, i.e., its organizational plasticity, which enables it to adapt to an ever-increasing range of environmental demands and pressures. Such an expansion cannot, however, go on indefinitely. Unless it is checked in some way, it will eventually lead to the disintegration of the agency. What is needed to prevent this is some sort of an integrating mechanism. In the case of standard-setting agencies, organizational structures and conceptual frameworks are examples of such integrating mechanisms. The latter also serve as foundations for accounting recommendations.

In adaptive systems, reintegration of their differentiating and diverging parts provides a new point of departure for the next round of systemic development through further differentiation of its elements but at a higher level. Cooperative alternation between the processes of progressive differentiation and integration permit adaptive systems to cope with environmental pressures over extended periods of time.

2. Financial Accounting and Reporting Objectives and Standards

The objectives of financial accounting and reporting generalize the nature of financial information to be supplied by business enterprises and provide a focus for the activities of standard-setting agencies. The purpose of this section is to identify the objectives of financial accounting and reporting in the three countries in question and to inquire into the relation between the objectives and standards.

2.1 Objectives of Financial Accounting and Reporting

Basically, standard-setting agencies agree that provision of useful information by enterprise management to investors, creditors, and others should be the major objective

of financial accounting and reporting. What is useful, however, is largely a function of the users and their information needs.

Two contexts have been used in the development and expression of this objective:

(1) the accountability context
(2) the decision usefulness context (Ijiri, 1983).

The accountability context is historically the older of the two. It appeared with the separation of ownership interests from those of management. This separation gave rise to the need for accountability of management to the owners of managed resources. In turn, accountability created "the need to record in order to report, the need to audit in order to trust, and the need to analyze in order to understand" the reports received from management (Littleton and Zimmerman, 1962, p. 255). These three needs provided an impetus to the development of what is known today as financial accounting and auditing.

Initially, managerial accountability was restricted to the ownership interests in business enterprises. The function of financial statements was simply to report to the owners on managerial stewardship. With the passage of time and the growth in significance of modem corporations, however, managerial accountability has been extended to other groups in society, including creditors, financial analysts, employees, governments, and the general public.

The basic objective of financial accounting and reporting in the accountability context is "to provide a fair system of information flow between the accountor and the accountee" (Ijiri, 1993, p. 25). The scope and nature of information provided are constrained here by the accountee's right to know and the accountor's right to privacy. The interests of both parties must be balanced. Emergence in the last several decades of decision-science and a better understanding of the nature of information needed for investment and credit decisions have stimulated the development of a decision-based context for financial accounting. In this context, investors, creditors, and others and their information needs are at the centre of attention. There is no need here to balance the interests of information suppliers and receivers.

While both accountability and decision-useful information are needed in the three countries under study here, provision of the first type has until recently been emphasized in the United Kingdom, and Canada, and of the second type in the United States. Thus, the UK *Corporate Report* states that financial reports are "to communicate economic measurements and information about the resources and performance of the reporting entity useful to those having reasonable rights to such information" (Accounting Standards Steering Committee, 1975, p. 78).

The Canadian *Corporate Reporting: Its Future Evolution* also emphasizes accountability information when it states that:

> One of the primary objectives of published corporate financial reports. is to provide an accounting by management to both equity and debt investors, not only on management's exercise of its stewardship function but also of its success (or otherwise) in achieving the goal of producing a satisfactory economic performance by the enterprise and maintaining it in a strong and healthy financial position. (CICA, 1980, p. 33)

In contrast to the situation in the United Kingdom and Canada, the FASB has adopted the decision-based context to express the objectives of financial accounting

and reporting in the USA. In this context, the primary objective is "to provide information that is useful to present and potential investors and creditors and other uses in making investment, credit and similar decision". It calls for information "of common interest to many users" that would "help investors, creditors, and others (to) assess the amounts, timing, and uncertainty of prospective net cash inflows to the ... enterprise". The objectives are directed primarily at those "external users who lack the authority to prescribe the information they want and must rely on information management communicates to them" (FASB, 1979, pp. vii–viii).

A growing world-wide acceptance of the FASB's *Conceptual Framework for Financial Accounting and Reporting* and the realization of the fact that accountability information is subsumed in the decision-usefulness context have recently influenced standard-setting agencies both in Canada and the United Kingdom to move closer to the American position. Thus, section 1000 of the CICA *Handbook on Financial Statement Concepts* issued in 1991 states that:

> The objective of financial statements is to communicate information that is useful to investors, members, contributors, creditors and other users ... in making their resource allocation decisions and/or assessing management stewardship. (CICA, 1991, p.103)

In the United Kingdom, the ASC agreed in 1989 to recognize the International Accounting Standards Committee's (IASC's) *Framework on the Preparation of Financial Statements* (Evans, 1989, p. 28) where the stated objective is "to provide information about financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions" (IASC, 1989, para. 12).

In sum, at the present time the major objective of financial accounting and reporting in Canada, United Kingdom and the United States is essentially the same, namely the provision of decision-useful information by enterprise management to investors, creditors, and others.

2.2 The Nature and Role of Accounting Standards

Generally, standards are a means to an end. More specifically, they are instruments of regulation used by man in the attainment of his goals and objectives. Both the original meaning of the word *standard* and its subsequent evolution point to the regulative nature of standards. Thus, the term *standard* originally stood for a banner whose purpose was to orient and gather the scattered forces in a battle, obviously a regulative function. Later, the usage of this word was extended to denote other regulative instruments. The *New Oxford Dictionary* defines the term as:

> The authorized exemplar, or means of judgment or estimation, criterion measure;
> A definite level of excellence, attainment, wealth, or the like or a definite degree of any quality viewed as a prescribed object of endeavour or as the measure of what is adequate for some purpose.

Standards are ancient things. They stem from the dimly lit prehistory with the evolution of rules and practices of language formation and the development of trade, agriculture, and building. The earliest standards for weights were developed to regulate exchange of goods. The Egyptian "bega" system of weights in the form of cylindrical stones, perhaps one of the oldest material standards in the world, was used to promote

honesty in people trading in gold and silver some 9000 years ago. The construction of pyramids and other great monuments of antiquity required precise measurements. The Egyptian royal cubit, a standard based on the length of the Pharaoh's forearm, was established for this purpose some 5000 years ago.

With the passage of time and the gathering of knowledge into numerous fields, the number and variety of standards have grown enormously. Currently, there are few products of human labor and few human activities which are not regulated or influenced by standards. Basically, man needs standards because he cannot select what he wants directly but only representatively, i.e. by means of surrogates representing the qualities of the objects subject to his selection processes. Thus, the selection of a nutritive substance from grain, gold and ore deposits, and of personnel for given jobs cannot be easily accomplished directly. Instead, the selection is done using the magnitude of flour particles, specific gravity or chemical properties of gold, and specific abilities of individuals as "representatives" or surrogates for the things in question.

Man cannot act differently because both his knowledge of things and practical methods of dealing with them are limited. With a given level of knowledge and technology, objects are accessible to him only in some respects and to a certain extent, although with the growth of knowledge and the development of technology this accessibility grows. Although the use of accounts has been related to all civilizations, the development of accounting standards in a systematic way is relatively recent. It came with the Industrial Revolution, which ushered an era of large-scale enterprises, separation of ownership interests from those of management, appearance of a large number of unidentifiable owners, and the rise of organized capital markets, all of which created the need for a consistent, comparable, and credible basis for periodic reporting on managerial stewardship to the holders of both equity and debt capital.

Initially, management was responsible for the development of accounting standards. Its failure, however, to devise standards that would report fairly on the company's financial position and operations, combined with the stock market crash of 1929 and the onslaught of the Great Depression, created a crisis of confidence in financial reporting. These things affected the reputation of the accounting profession and forced the profession to take on the responsibility for standard-setting. The Committee on Accounting Procedure (CAP) of the American Institute of Accountants, the predecessor of the American Institute of Certified Public Accountants (AICPA), began in 1939 to issue statements on accounting principles; the Council of the Institute of Chartered Accountants of England and Wales (ICAEW) commenced the publication of accounting recommendations in 1942; and the Committee on Accounting and Auditing Research of the Canadian Institute of Chartered Accountants (CICA) started in 1946 to issue bulletins on accounting and auditing practices (Zeff, 1972, pp. 140, 14, 278).

The choice of the term "principles" in the United States and its subsequent adoption in the auditor's report proved to be quite inappropriate. In the words of the Wheat Committee:

"Accounting principles" has proven to be an extraordinarily elusive term. To the nonaccountant (as well as to many accountants) it connotes things basic and fundamental, of a sort which can be expressed in a

few words, relatively timeless in nature, and in no way dependent upon changing fashions in business or the evolving needs of the investment community. (AICPA. 1972. p.13)

The term was therefore abandoned in the United States in 1972 with the establishment of the FASB and the words "accounting standards" were adopted as "being more descriptive of the Board's (APB's) pronouncements as well as the great bulk of its ongoing work" (AICPA, 1972, p. 13).

Now standards are not regarded as some fundamental laws to be discovered but simply as instruments fashioned by man himself for the attainment of "what are perceived to be the desired objectives of financial accounting and reporting" (AICPA, 1972, p. 13). Although not explicitly stated, apparently similar reasons motivated the standard-setters in the United Kingdom and Canada also to adopt the term *accounting standards* in 1969 and 1982, respectively (Leach, 1981, p. 5; CICA, 1988, p. 9). In common with all standards, accounting standards are also surrogates for the selection of useful financial information. Their basic function is to specify the essential properties of such information and make its selection possible.

Accounting standards have many values and perform many functions, including the following ones:

(1) Standards guide and simplify the preparation of financial reports and reduce the costs involved in their preparation.
(2) Standards serve as a basis for recognition and certification of the quality of information contained in financial reports.
(3) Standards enable the users to compare, analyze and interpret the information contained in financial reports.
(4) Standards facilitate the monitoring of contractual agreements between the enterprise, on the one hand, and owners and creditors on the other.
(5) Standards set limits on the exercise of professional judgment.
(6) Standards facilitate integration, retention, and transmission of accounting knowledge and thus obviate the necessity of rediscovering it and permit building on experience.

Standards can do all these things because they are constraints on their environments. This feature of standards, however, can also inhibit innovation and impede adaptation of financial accounting and reporting to the changes in the business environment. Timely elimination of standards that have outlived their usefulness is, therefore, one of the issues the standard-setters should bear in mind.

3. The Function and Problems of Standard-Setting Agencies

The primary function of standard-setting agencies is to produce standards that facilitate the attainment of financial accounting and reporting objectives. The agencies face two major and interrelated problems in performing this function:

(1) the problem of selection criteria, i.e. the problem of how to decide on the "best" accounting practice; and
(2) the problem of obtaining a general acceptance of standards that have been selected.

3.1 The Problem of Selection Criteria

The question of criteria to be used in determining the "best" accounting practice posits one of the most challenging problems in financial reporting. It has been debated ever since the early 1930's when the setting of standards became an integral part of the accountants' professional activity. The debates have resulted in a belief that accounting standards should be selected on the basis of a theory, i.e., "a coherent set of concepts explaining and guiding" the choices among accounting alternatives (American Accounting Association (AAA), 1966, p. 2).

Most accounting theories that have been developed to achieve this recommend the use of such concepts as usefulness, relevance, reliability, and fairness. A major flaw in the use of these and similar concepts lies in the fact that they do not explicitly consider individual beliefs and preferences present in accounting choices. In such cases, Demski has demonstrated that "no set of standards exists that will single out the most preferred accounting alternative" (Demski, 1973, p. 70). Incorporation of individual beliefs and preferences for financial information is, however, problematic. In order to illustrate some of the difficulties involved, let us try to make the definition of accounting advanced by the AAA operational, specially if the word *informed* contained in the definition is replaced by the word *optimum*.

The authors of *A Statement of Basic Accounting Theory* look at accounting information in terms of its consequences to decision-makers and define accounting as "the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information (AAA, 1966, p. 1). This concept of accounting lies at the foundation of the decision-usefulness context of financial reporting and is, therefore, relevant to the question at hand. A model of such an information system is presented in Fig. 2.

In the model, data are selected from the real world, measured, and communicated to the decision-maker, who decides upon the action to be taken on the basis of the information received. His objective is to choose that action which will produce optimum net results. i.e., the action which will maximize the result minus the cost involved in the entire process. All of the above activities may be performed directly by the decision-maker, or he may delegate some of them to others. In the case of financial accounting, the identifying, measuring, and communicating activities are usually performed by accountants on behalf of the enterprise management while the deciding in done by the decision-maker.

The model implies that an optimum information system can be designed only if certain conditions are satisfied. These conditions include knowledge of all the relevant states of the world, the payoff function for each act and for each state of the world, the utility function of the decision-maker in question, and his decision rule. The key point that emerges from the model is that one cannot define an optimum system in the abstract; one must know the possible states of the world, and the decision-maker's

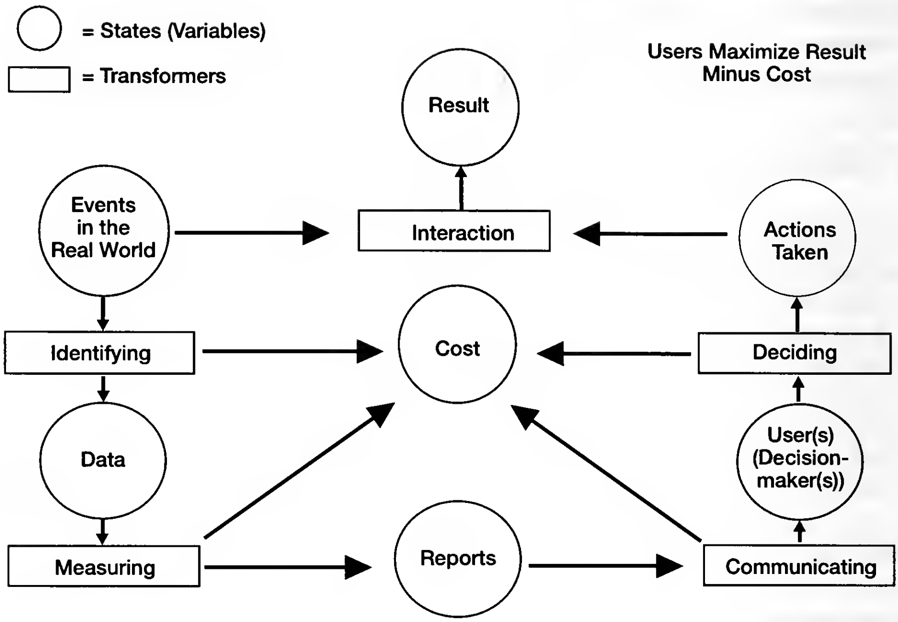

Fig. 2. Accounting as a measurement-communication system. Adapted from Marschak (1968).

decision, rules, etc., and optimise over all of them simultaneously to achieve this (Crandall, 1969).

For financial reports to be of maximum value, therefore, they must be, at least in theory, tailor-made for each decision-maker and for each of his different decisions. Since such structuring of information would be very costly, ways must be found to produce the relevant information cheaply. One way to accomplish this would be to classify decision-makers or their decision rules into relatively homogeneous classes, as far as their preferences for information are concerned, and to provide the needed information for each class. Another approach might be to design an accounting system that would provide a broad spectrum of messages cheaply. Newspapers are a good example of such an information system. It is cheaper to buy the entire conventional newspaper and to throw away the parts which are of little interest to the reader than to have the paper produced specifically to satisfy a particular interest of the reader (Marschak, 1968, pp. 12–13).

While the above suggestions may be helpful in reducing the cost of producing financial information and even in generating useful information for investors and creditors, they ignore the interests of other parties to standard-setting, particularly the interests of enterprise management, auditors, regulatory bodies, and standard-setters themselves whose preferences for financial reports and, therefore, for accounting standards are likely to be different. Expansion of the model to include these preference introduces another major problem into standard-setting: the problem of how to obtain general acceptance of standards recommended by the agencies. This problem is considered next.

3.2 The Problem of Obtaining Agreement on Standards

In his seminal work, *Obtaining Agreement on Standards*, Professor Moonitz has noted that "outsiders have a continuing and abiding interest in all phases of the process by which accounting standards are set," and singled out management as the most important single group in any discussion of financial reporting (Moonitz, 1974, p. 64)

This group has a statutory responsibility in the three countries in question for the adoption of policies and standards that would lead to fair presentation of the financial position of the company, the results of its operations and of the changes in its financial position. But according to Moonitz:

> management is not itself interested primarily in the development of a set of accounting principles which will command general agreement. Management has other goals, other objectives, other problems. Management views "accounting principles" as aspects of the environment in which it must operate. Accordingly, accounting principles are viewed as constraints (factors, forces) to which it must adapt. If environmental forces cannot be changed, management will accept them. If they can be moulded management will shape them to its needs. (Moonitz, 1968, p. 628)

Subsequent research has revealed that one of the major reasons why it is so difficult to gain general agreement on standards is because standards determine the nature of financial reports and affect thereby the decision-making behavior of management, investors, creditors, auditors, etc. Since the economic consequences of such behaviors are likely to be different for different parties to standard-setting, getting an agreement on standards is very difficult (Rappaport, 1977; Zeff, 1978).

Thus, investors and creditors want information that is relevant to their economic decisions and that is unbiased. Management's self-interest, on the other hand, is not necessarily congruent with that of the investors and creditors. According to Watts and Zimmerman's (W&Z) positive theory of determination of accounting standards, managers have incentives to choose accounting standards that report lower income than it really is for firms that are subject to political and regulatory pressures because this is likely to reduce political and regulatory costs. However, for small firms that are not subject to political and regulatory pressures, managers have incentives to choose accounting standards that report higher income because political and regulatory costs are negligible. W & Z tested their theory in the context of responses to the FASB's Discussion Memorandum on General Price Level Changes. The results of their test turned out to be consistent with the theory (Watts and Zimmerman, 1978).

Management's opposition to standards, motivated by actual or perceived economic consequences to them, has also been noted in Canada in connection with the petroleum incentive program (Crandall, 1983) and the standard on foreign currency translation (Peat, Marwick, Mitchell & Co., 1979).

In the United Kingdom, arguments involving economic consequences came strongest in submissions on the Research and Development (R&D) Exposure Draft (ED). The ED proposed that all R&D expenditures be written off because it is so difficult to evaluate their potential benefits. This proposal was vigorously opposed by a large number of companies in the electronics and engineering industries who argued that immediate write off of R&D expenditures would reduce their assets by as much as 50 percent with dire consequences to their earnings and the ability to

raise debt and equity capital. After much discussion with the engineering companies, the ASC went to the other extreme and said that they were now convinced by the arguments of the companies and proposed that all R&D expenditures be capitalized. This raised objections from a great number of other companies. As a result, the standard on R&D is a compromise permitting capitalization of R&D expenditures under certain restrictive conditions.

Auditors too have their own self-interest at heart. One of their main concerns is how to reduce audit risks. They show, therefore, a preference for clear, risk-reducing rules, and a reduction of measurement and reporting alternatives.

The above examples are used here only to illustrate the diversity of interests and preferences for accounting standards; many more could be cited. Such diversity and conflicts make it impossible to develop standards that would satisfy all the preferences for standards and also satisfy at the same time some reasonable conditions for collective decision-making. More specifically, Kenneth Arrow demonstrated that:

(a) If everyone's preferences are to count in collective decision-making, and only available alternatives are to be considered, then it is impossible to construct a rational social choice preference function unless:
(b) there is complete unanimity; or
(c) social preferences are either imposed or dictatorial (Arrow, 1963).

It follows, therefore, that unless some of these conditions are removed or considerably modified, it is impossible to develop accounting standards that would be completely satisfactory to a group of heterogeneous parties to standard-setting.

Thus, in the absence of definitive selection criteria and presence of economic consequences the setting of accounting standards is extremely difficult. In addition to conceptual and technical difficulties in standard-setting, there are also economic and political ones. These difficulties are aptly summarized by Horngren when he says that:

> the setting of accounting standards is as much a product of political action as of flawless logic or empirical findings. Why? Because the setting of standards is a social decision. Standards place restrictions on behavior; therefore, they must be accepted by the affected parties. Acceptance may be forced or voluntary or some of both. In a democratic society, getting acceptance is an exceedingly complicated process that requires skillful marketing in a political arena. (Horngren, 1973, p. 61)

To be viable, therefore, standard-setters must be able to produce standards that are both conceptually and technically sound and also acceptable to their environments. How this is accomplished is addressed next.

4. Approaches to Standard-Setting

The main goal of standard-setting agencies is then to develop standards that are conceptually and technically sound, generally acceptable, and also helpful in maintaining or strengthening their own viability. The agencies have attempted to attain this goal using requisite organizational structures and processes and building external support for their standard-setting activities.

This section of the paper outlines standard-setting approaches of the AcSC in Canada, the ASC in the United Kingdom, and the FASB in the United States, and identifies their basic similarities and differences.

4.1 Outline of Standard-Setting by the AcSC in Canada

Standard-setting in Canada has gone through a number of organizational changes since the establishment of the Accounting and Auditing Committee in 1938, which include:

(1) splitting of the Committee into the Accounting Research Committee (ARC), responsible for setting financial accounting standards, and the Auditing Standards committee in 1973;

(2) replacing the ARC in 1982 with the AcSC; and finally,

(3) restructuring the AcSC as the Accounting Standards Board (AcSB) in 1991.

Since the AcSB has just begun its operation, the approach of the AcSC to standard-selling is outlined in this section of the paper and that of the AcSB is reviewed in the final section of the paper.

4.1.1 The Structure and Terms of References of the AcSC

The AcSC was a standing committee of the CICA. The Committee had a diffused organizational structure. It was divided into four geographic sections in order to allocate the workload, and normally had 20 unpaid, part-time members who were accountants in public practice, industry, commerce, finance, and academe. No fewer than two-thirds of standard-setters had to be members of the CICA.

Subject to an agreement of the Committee Chairman and the General Director of Research, as many as six members could be appointed by other organizations, such as the Canadian Council of Financial Analysts, the Financial Executives of Canada, the Society of Management Accountants of Canada, and the Certified General Accountants' Association of Canada. The latter opted out from direct participation in the Committee's work in 1983 on the grounds that the Committee was not fully representative of all the major stakeholders in standard-setting.

The AcSC was empowered by its terms of reference, among other things:

> to review matters of accounting theory and practice and, with written approval of at least two-thirds of its voting members, to render on its own authority such pronouncements as it considers necessary in the best interests of the community as a whole, including users, preparers and auditors of financial information. (CICA, 1991, p. 14)

The Accounting Research Advisory Board, consisting of 10–15 members, who were mainly non-accountants, including economists, lawyers, and senior managers, provided a forum for debating merits of the AcSC's proposed recommendations and feedback on possibilities of their general acceptance.

The *CICA Handbook*, which contains the Committee's recommendations, is primarily intended for the use of the chartered accountant profession. "The fact that others have chosen to adopt the *Handbook* for their own purposes, either through usage or

by reference in various statues", states the report of the *CICA Special Committee on Standard-Setting*," does not change the fact that the *Handbook* is essentially the profession's document" (CICA, 1980, p. 15).

4.1.2 The Approach of the AcSC to Standard-Setting

The AcSC essentially adopted what Lindblom calls a "muddling through" or incremental approach to the development of standards (Lindblom, 1959). The basic objective here is to satisfice rather than optimize. Under this approach, accounting problems are not solved once and for all on the basis of a comprehensive theory, but incrementally on a case-by-case basis.

The approach begins with the identification of a reporting problem experienced by management, auditors, Provincial Security Commissions, or others, commissioning research studies, searching for and deciding on an acceptable solution to the problem, and issuing a recommendation (Thomas, 1976). In searching for a solution, the standard-setters considers a limited number of alternative and perform limited analyses of their consequences. The alternative that is chosen, after an extensive due process, usually represents a relatively small change from the actual practice (Gerboth, 1972).

Due process is critical to the success of incremental approach, for it provides feedback on conceptual and technical soundness as well as on the acceptability of proposed recommendations to the constituencies of standard-setting agencies. It is also an essential ingredient in the legitimation of the agencies in private sector (Johnson and Solomons, 1984). The due process of the AcSC basically involved exposures of proposed recommendations for comment to a wide range of individuals and institutions both in Canada and abroad. The meetings of the Committee, however, were not open to the public. Generally, all of its deliberations were conducted under a veil of secrecy (Bloom, 1984, p. 52).

Solutions to new problems in Canadian financial reporting have usually been pioneered by the standard-setters in the United States. Since multinational corporations in Canada are largely controlled by American investors, the AcSC tended to adapt these solutions to the Canadian environment. The influence of American standards on Canadian standard-setters is likely to intensify when the North American Free Trade Agreement (NAFTA), which aims at reduction and ultimate elimination of tariffs and other barriers on the flow of services and investment capital, is ratified.

Another external influence on Canadian standard-setting emanated from the International Accounting Standards Committee (IASC), whose objective to harmonize international accounting standards the AcSC was committed to support. When an International Accounting Standard was issued, the AcSC's procedures included the following:

(1) comparison of the standard with Canadian practice to determine if there were significant differences between the two; and
(2) if significant differences were present and compelling reasons to the contrary were absent, the *CICA Handbook* was modified to incorporate the standard (CICA, 1991, p. 207).

In its recommendation, the AcSC showed a preference for general standards rather than detailed rules and relied for their appropriate implementation on professional judgment. In the words of the *CICA Handbook:*

> No rule of general application can be phrased to suit all circumstances or combinations of circumstances that may arise and the determination of what constitutes fair presentation or good practice in the particular case requires the exercise of professional judgment. (CICA. 1991, p. 202)

The main criteria used in the formulation of standards were "usefulness and practicality" as well as acceptability of standards to preparers, users, and auditors of financial report. The "usefulness and practicality" of standards were determined by the collective judgment of the Committee members without any resort to formal studies of economic impact of standards or a common conceptual framework (Waterhouse, 1982).

4.1.3 The Support for Standard Setting

The AcSC was supported financially by the CICA membership and revenues from the sale of its publications. A relatively small full-time secretariat provided the Committee with administrative support. Externally, the AcSC received its nonfinancial support from:

(1) the company legislation;
(2) Provincial Securities Commissions; and
(3) the rules of professional conduct

Canadian corporate disclosure is regulated by the Companies Acts. Prior to 1975, these Acts stipulated in detail what corporations should disclose. This was changed in 1975 when the Canada Business Corporation Act (CBCA) became law. Under CBCA regulation 44, corporate financial statements must be prepared in accordance with the standards, as they exist from time to time, of the Canadian Institute of Chartered Accountants set out in the *CICA Handbook*. Subsequently, a number of Provincial Companies Acts have also adopted a similar provision.

Capital markets in Canada are regulated by Provincial Securities Commissions (PSCs). In 1972 the administrators of the PSCs issued a National Policy Statement No. 27 which says, in effect, that the CICA Handbook is the primary source of Generally Accepted Accounting Principles (GAAP) for the purpose of filing financial reports with the Securities Commissions throughout Canada (CICA, 1980, p. 10).

Finally, the Institute's rules of professional conduct include provisions for conformity with the accounting standards of the profession. These rules prohibit the expression of an opinion on financial statements examined by members of the Institute which are not prepared in accordance with the *CICA Handbook* unless such an opinion is suitably qualified.

4.2 Outline of Standard-Setting by the ASC in the United Kingdom

The ASC was established in 1969 in order to remedy a number of deficiencies in the production of standards by its predecessor, the ICAEW. In particular, compliance with standards was "not mandatory, they often took a long time to produce, they

often included alternative approaches and there were no procedures for consultation with interested parties" (Taylor and Turley, 1986, p. 32).

The ASC was replaced on August 1, 1990 with the Accounting Standards Board (ASB). Therefore, the ASC's approach to standard-setting is outlined in this section of the paper and that of the ASB is reviewed in the concluding section.

4.2.1 The Structure, Objects, and Terms of Reference of the ASC

The ASC was a joint Committee of the six members of the Consultative Committee of Accounting Bodies (CCAB): the Institute of Chartered Accountants in England and Wales, the Institute of Chartered Accountants of Scotland, the Institute of Chartered Accountants in Ireland, the Association of Certified Accountants, the Institute of Cost and Management Accountants, and the Chartered Institute of Public Finance and Accountancy. Appointments to the ASC were made by the presidents of the six member bodies. Each member body could appoint at least one person to the ASC.

The Committee had a diffused organizational structure. It was usually composed of 20 persons of whom five were "users" of financial reports who needed not be accountants. The remaining 15 were accountants in public practice, industry, commerce, and academe.

The objects of the ASC were to define accounting concepts, to narrow differences of financial accounting and reporting treatment, and to codify generally accepted best practice in the public interest. In order to achieve these objects, the ASC was given the following terms of reference:

(a) to keep under review standards of financial accounting and reporting;
(b) to propose to the Councils of the CCAB members statements of standard accounting practice and interpretation of such statements;
(c) to publish consultative documents, discussion papers, and exposure drafts and submit to the Councils of each of the CCAB members non-mandatory guidance notes with the object of maintaining and advancing accounting standards;
(d) to consult, as appropriate, with representatives of finance, commerce, industry and government, and other bodies and persons concerned with financial reporting; and
(e) to maintain links with the International Standards Committee and the accountancy profession in Europe and throughout the world (ICAEW, 1969, p. 1.4).

The Committee had no authority to issue standards, but only to propose them. To be binding, standards had to be issued and enforced by the Councils of the six member bodies.

4.2.2 The Approach of the ASC to Standard-Setting

Accounting practice in the United Kingdom is regulated by company law and accounting standards produced by regulatory bodies outside the law, such as the ASC. The overriding requirement of the law is that financial statements give a "true and fair view". Although the courts do not accept that compliance with accounting standards is conclusive evidence in determining a true and fair view, such compliance is nevertheless influential and highly persuasive in that respect (ASC, 1981, pp. 16–17).

Prior to 1981, the statute law prescribed only a basic and minimum framework for the content of financial statements and left the detailed mechanics of accounting and measurement rules to standard-setting agencies. As a result of the UK membership of the European Economic Community (EEC), however, this began to change with the 1981 Companies Act and its subsequent amendment in 1989 which introduced the Fourth and Seventh EEC Directives. The Directives "now specify the format of accounts to be presented and the accounting rules to be followed in considerable detail, and both standard-setters and preparers of accounts increasingly find their freedom of action constrained by law" (Davis, 1992, p. 5).

The ASC's approach to standard-setting was quite similar to that used by the AcSC in Canada. The ASC adopted an incremental approach in developing standards and used similar due process procedures in order to achieve consensus and general acceptance of standards. The due process involved exposure of accounting recommendations for comment to interested parties, including users and preparers of financial reports, auditors, regulatory bodies, academics, and international standard-setting agencies. While the Committee recognized the need to engage in the widest and most open consultation and debate prior to making pronouncement on accounting standards, its meetings were held in strict privacy. As in Canada, this was justified on the grounds that the setting of standards involves inevitable compromises and these were reached more quickly in closed meetings.

As in Canada, the member bodies comprising the CCAB supported harmonization efforts and standards of the IASC. In so far as they were not already included in law, the provisions of International Accounting Standards were incorporated within the body of the UK standards.

The standards issued by the Committee were intended (1) to deal with matters of major importance affecting the generality of companies and (2) to apply to all financial statements required by law to give a "true and fair view" (ASC, 1993, p. 5). As in Canada, recommendations on standards were not supported by convincing justifications (Bromwich, 1985, p. 27).

The Committee agreed with the conclusions of the Macve Report, which it had commissioned, that it was unlikely that a general agreement on a conceptual framework of accounting can be reached. Its deliberations and recommendations, therefore, were not supported by solid conceptual foundations (Macve, 1981). The work on a conceptual framework for financial reporting, however, has been resumed by the newly established ASB (see concluding paragraph of section 5.2 of this paper).

4.2.3 The Support for Standard-Setting

The ASC was financed by the six sponsoring bodies. It employed a permanent secretariat of four accountants who drafted all of the Committee's working papers and undertook research for the projects under consideration. The operating costs of the ASC amounted to approximately £400 000 per annum and were shared among the sponsoring bodies in proportion to the total membership of each body.

As noted above, financial and reporting standards of the profession have no legal standing in the United Kingdom. Their authority is mainly persuasive. The main support for standards comes from the bodies sponsoring the standard-setting agency

and the London Stock Exchange, which requires reporting companies to comply with the standards used by the accounting profession.

4.3 Outline of Standard-Setting by the FASB in the United States

The FASB is an independent body in the private sector that has been designated by the SEC to establish standards for financial accounting and reporting since 1973. It was established in order to remedy a number of deficiencies in the setting of standards by its predecessor, the APB. In particular, the APB had a diffused organizational structure, lacked sufficient authority to enforce standards, all of its unpaid, part-time members were certified public accountants, and it was perceived by some as the arm of the AICPA and, therefore, not free of conflicts between private and public interests. The APB also failed in its efforts to get an agreement on a set of basic concepts (or postulates) that would provide guidance for both standard-setters and others in the settlement of accounting issues (Miller and Redding, 1986, pp. 48–50).

The FASB has a compact organizational structure. It is composed of seven full-time members who are appointed for five-year terms. They come from diverse walks of life and are required to have "knowledge of accounting, finance, and business, and a concern for the public interest in matters of financial accounting and reporting" (FASB, 1991–92, p. 6).

The basic mission of the FASB is "to establish and improve standards of financial accounting and reporting for the *guidance* and *education* of the public, including issuers, auditors and users of financial information" (FASB, 1991–92, p. 1). In order to resolve pressing issues more rapidly, the FASB formed in 1984 the Emerging Issues Task Force (EITF), which is composed of 16 members. If the consensus on an issue is reached, recommendations of the Task Force are deemed to have authoritative support. Otherwise, the issue, if warranted, is referred to the FASB for further consideration.

A Financial Accounting Standards Advisory Council, comprised of over 30 members, provides advice to the FASB on questions of policy, technical issues, project priorities, selection of task force members, and other matters requested by the Board.

4.3.1 The Approach of the FASB to Standard-Setting

While the FASB also relies on incrementalism in standard-setting, it increasingly supports the establishment of standards with a common conceptual framework. The Board finds the framework useful in "establishing standards and in providing a frame of reference ... for resolving accounting issues" (FASB, 1991–92, p. 1).

In deciding priorities for inclusion on its technical agenda, the Board uses the following four criteria:

(1) the pervasiveness of the problem;

(2) the availability of possible solutions to the problem for material improvement of financial reporting;

(3) the technical feasibility of developing a sound solution; and

(4) the acceptability of that solution in general and to the SEC and Congress in particular (FASB, 1991–92, pp. 2–3).

In developing standards, the FASB relies on research findings and follows an extensive due process which includes the preparation of discussion memoranda, public hearings, analyses of both oral and written comments made at the hearings, circulation of exposure drafts, publication of standards, and a continuous monitoring and evaluation of impact of standards on financial statements. The objective here is to ensure that standards are properly justified, generally acceptable and that they lead to reports reflecting as faithfully as possible the economic activities of the reporting enterprises (Gaa 1988, pp. 192–194).

The meetings of both the FASB and the EITF are open to public observation, but public participation is not permitted except by special invitation made in advance, generally to provide background information that supplements staff work. In 1988, the FASB committed itself "to full consideration of an international perspective in all its work" (Choi and Mueller, 1992, p. 262). It has also recently joined the IASC's Consultative Group and is sympathetic to international harmonization of accounting standards. However, the FASB "does not directly take the IASC's views into account" (Nobes, 1991, p. 77).

4.3.2 Support for Standard Setting

The FASB is financed by the Financial Accounting Foundation, which receives contributions and approves the FASB budget. The Board's budget is in excess of $12 million, of which 50–55 percent comes from the sale of publication. The balance is split 50–55 percent by industry and 45–50 percent by public accounting firms. Its work is assisted by a staff of more than 40 professionals drawn from public accounting, industry, academe, and government.

In the United States, the SEC has statutory authority to establish accounting standards for publicly held corporations. The SEC has on occasion exercised its statutory power to intervene in the standard-setting process. The investment tax credit and accounting for oil and gas are two noteworthy examples of such intervention. Generally, however, the SEC has chosen to rely on Standards produced by standard-setters in the private sector. Currently, the FASB standards are recognized as authoritative by both the SEC and the AICPA. This and an even-handed decision-making process which the FASB follows endow it with considerable institutional legitimacy to establish accounting standards in the public interest.

4.4 Similarities and Differences in the Approaches to Standard-Setting in Canada, United Kingdom, and the United States

The basic similarities and differences in standard-setting approaches of the AcSC, ASC, and FASB are summarized in Table 1. Essentially, they have been moulded by similarities and differences in the environments of the agencies.

Table 1. Similarities and Differences in the Approaches to Standard-Setting by the AcSC, ASC, and the FASB

	AcSC in Canada	ASC in the UK	FASB in the USA
Goals	Establishment of generally acceptable standards	Establishment of generally acceptable standards	Establishment of generally acceptable standards
Organizational structure of the agencies	Diffused (20 part-time unpaid members, all of whom were accountants)	Diffused (20 part-time time, unpaid members of whom six were users of financial reports and the remainder were accountants)	Compact (7 full-time, paid members from diverse backgrounds)
Standards-setting process	Incremental; use of due process; reliance on individual judgments of Committee members	Incremental; use of due process; reliance on individual judgments of Committee members	Incremental, but increasingly supported by substansive research, conceptual framework and extensive use of due process
Types of standards	Mainly general rules	Mainly general rules	A trends toward specific rules
Plasticity	Modest	Modest	Considerable (Permanent EITF)
Financing	Provided by the CICA	Provided by the six member bodies of CCAB	Provided by FAF
Independence from the accounting profession	Lacking (Committee of CICA)	Lacking (Committee of the six member bodies of CCAB)	Present (Independent from the AICPA)
Authority	Semi-legislative	Persuasive	Delegated by SEC
Support for International Accounting Standards of the IASC	Direct	Direct	Indirect

5. Viability of Standard-Setting Agencies

This section of the paper offers some comments on the viability of the AcSC in Canada, the ASC in the United Kingdom, and the FASB in the United States. It also outlines major changes in the organization and approaches to standard-setting adopted by the newly established Accounting Standards Boards in Canada and the United Kingdom.

5.1 From the AcSC to AcSB in Canada

Essentially, the Canadian AcSC was quite successful in maintaining its viability by relying on relatively small financial and human resources, using a diffused organizational structure and an *ad hoc* organizational process because its environment had been generally favorable. The AcSC enjoyed a semi-legislative authority in setting

standards and a strong backing by the Securities Commission and the chartered accountant profession.

The grant of a semi-legislative authority to a private sector body, such as the AcSC to set accounting standards, is unique to Canada. According to Murphy, this was due to:

> the early organization and leadership of the Institute of Chartered Accountants of Ontario ..., the vigour and Interest of the Office of the Provincial Secretary of Ontario, the untarnished preeminence and strength of the CICA and Canadian good fortune in having few corporate scandals – relative to the United States and Britain – that rebounded to any enduring discredit of the accounting profession. (Murphy, 1986, p. 32)

The well-earned support enjoyed by the AcSC, however, was always conditional on the Committee's performance and could be withdrawn at any time if its actual performance fell significantly below a certain level expectations entertained by the supporting parties. Over the years, the AcSC became vulnerable in a number of respects. The *ad hoc* approach to standard-setting, preference for general standards rather than specific rules, excessive reliance on individual judgments of the Committee members in the development of standards and of auditors in their application, emergence of a challenger, and increasing inability of the AcSC to cope effectively with new reporting issues, emerged as some of the major threats to its long-run viability.

First, the *CICA Handbook*, which has resulted from an *ad hoc* approach to standard-setting, is incomplete (Skinner, 1987, p. 673). This and the fact that *Handbook* recommendations were predominantly in the form of general rules, calling for the exercise of professional judgment, lay potential dangers to the viability of the AcSC. Proper exercise of professional judgment requires both the ability to discern the best course of action in a particular situation and the will to enforce that action (Gibbins and Mason, 1988, pp. 4–7). In the presence of economic consequences, this was at times difficult to achieve.

The results of inappropriate exercise of professional judgment culminated from time to time in reporting and auditing crises. Several such crises were recently reviewed by Philip Mathias in the four-part series of the *Financial Post* (January 10–13, 1989). The series focused on the "flexibility of generally accepted accounting principles (GAAP) and what it means to the bottom line" (Mathias, 1989, p. 1). According to one security analyst, a company "could theoretically report high earnings on Monday and go bankrupt on Tuesday" (Mathias, 1989). In the case of the Canadian Commercial Bank, for example, flexibility in the application of GAAP permitted the bank to report profits and continue operations for two years after 1983 when the bank should have been declared insolvent had proper accounting standards been used in the preparation of financial reports (Waterhouse and Tims, 1988, p. 151).

Second, the AcSC was also potentially vulnerable in still another respect. It had a challenger in the Accounting Standards Authority of Canada (ASAC), which was incorporated under the Canada Business Corporations Act on July 31, 1981, under the sponsorship of the Certified General Accountants Association of Canada (ASAC, 1986). The ASAC offered an alternative mechanism to standard-setting in Canada. The sponsors of ASAC believed that accounting standards had an impact on every member of Canadian society and that the setting of standards involved questions of social choice. In their view, the body making such choices should have adequate

representation of all the interested parties, including accountants and preparers of financial reports as well as the users of financial information, and should not be within an exclusive jurisdiction of a single professional accounting body. The basic objective of ASAC was to establish, encourage, and promote the development of accounting standards in Canada. The most significant accomplishments of the ASAC to date have been the development and publication of a conceptual framework for accounting (ASAC, 1987) and the *Standards Manual* (ASAC, 1988).

Finally, changing social values and increasing globalization of trade and commerce have created a host of new issues for standard-setters to tackle, including the need to develop recommendations on the use of time value of money in financial reporting, post-employment benefits other than pensions, environmental reporting, and a closer harmonization of *Handbook* recommendations with those of the International Accounting Standards Committee. Given the organizational structure and inadequate financial resources of the AcSC, these issues could not be addressed on a timely basis. Some of these and other issues were considered in the *Report of the Commission to Study the Public's Expectations of Audits* (CICA, 1988), and by the CICA *Task Force on Volunteer Workload.* As result of these studies the AcSC was restructured in October 1991 as the AcSB.

The structure of the new Board is more compact than that of its predecessor. The Board is composed of 13 volunteer voting members and two senior staff nonvoting members. Eight of the 13 "volunteer members are appointed by the CICA and one place is available for a representative from each of five other bodies: the Canadian Council of Financial Analysts (CCFA), the Financial Executives Institute of Canada (FEIC), the Society of Management Accountants of Canada (SMAC), the Certified General Accountants Association of Canada (CGAC) and the Canadian Academic Accounting Association (CAAA)" (Denman, 1992, p. 68).

In contrast to the AcSC, which was responsible for practically all the phases in the development of standards, the new Board will focus on matters of principles and policy and delegate the "development of new standards to task forces or staff (Denman, 1992, p. 68). This considerably enlarges the working apparatus of the Board and calls for considerable care in planning and coordination of the work assigned to various task forces.

Most of the other aspects of standard-setting by the AcSC such as, for example, due process, production of general standards, and a requirement for a two-third majority of voting members to approve the proposed recommendations, however, remain virtually unchanged. As was the case with the AcSC, the Board lacks independence from the CICA. The main thrust of the new system is to improve efficiency in the production of standards and to eliminate unjustified use of accounting alternatives. It remains to be seen whether the new AcSB will escape the fate of its predecessor in the unfolding complexity and turbulence of its environment.

5.2 From the ASC to ASB in the United Kingdom

While the ASC had to face some difficult and controversial issues, particularly those relating to accounting for inflation, it was, on the whole, quite successful in standard-setting during the first decade of its operation. Lack of independence from

the accounting profession and of an agreed conceptual framework, the use of a diffused organizational structure and judgment in the development of general Statements of Standard Accounting practices (SSAPs) apparently did not seriously impair the Committee's viability. This was due to a number of factors, including the following:

First, the Committee's work was fully supported by the membership of the participating bodies. According to Carty:

> Accounting standards have been adopted by the overwhelming majority of companies in the UK on a voluntary basis. Few accountants, even among those who are the severest critics of regulations, imagine it would be possible to return to the position which existed at the end of the 1960s. (Carty, 1982–93, p. 21)

Second, to the extent that standards succeed in clarifying the meaning of the "true and fair view" requirement of the Companies Act with respect to the enterprise reporting, the ASC was also supported by the British Government. And finally, there was no particular desire in the United Kingdom to produce detailed standards or to support standard-setting by a conceptual framework. Many accountants felt that the basic work of the ASC was accomplished and that the main task of the Committee "should be a revision of all standards published to date and an educational programme to make the general public more aware of the use to which accounting information may be put" (Carty, 1982–83, p. 23).

This began to change in the 1980s when the ASC failed to impose uniformity in a number of controversial issues, including the accounting for goodwill in 1984 (SSAP 23) and the accounting for acquisitions and mergers in 1985 (SSAP 23). Lack of sufficient resources and the inordinate amount of time and attention that had been devoted for accounting for inflation also made it extremely difficult for ASC to issue timely guidance and standards on a number of emerging issues such as, for example, a standard on accounting for pension costs and a standard on off balance sheet financing. All of these things gave rise to intense criticisms of the ASC and calls for basic restructure of the entire standard-setting system (Singleton-Green, 1990).

In response, the CCAB established in 1987 an independent committee under the chairmanship of Sir Ron Dearing to review the entire standard-setting system. In 1988, the Committee tabled its report on the *Making of Accounting Standards* (Dearing, 1988). The CCAB unanimously approved the Dearing proposals and decided that the implementation of "the new arrangements should be carried out as soon as possible" (*Public Finance and Accountancy*, April 14, 1989, p. 2). The new system of standard-setting was introduced on August 1, 1990 (*Public Finance and Accountancy*, July 6, 1990, p. 8).

The basic structure of the new system appears in Fig. 3. At the top of the structure is the Financial Reporting Council, the body charged with broad oversight of the new standard-setting system. It is composed of a chairman, three vice-chairman, chairman of the ASB, secretary and 20 members drawn from a wide range of activities, plus three observers (*Public Finance and Accountancy*, May 18, 1990, p. 3). The Council has two operationally independent entities: the ASB and the Review Panel. Its function is to secure financing for the two entities and to provide a forum for "public advocacy and support for accounting standards" (Dearing, 1990, p. 86).

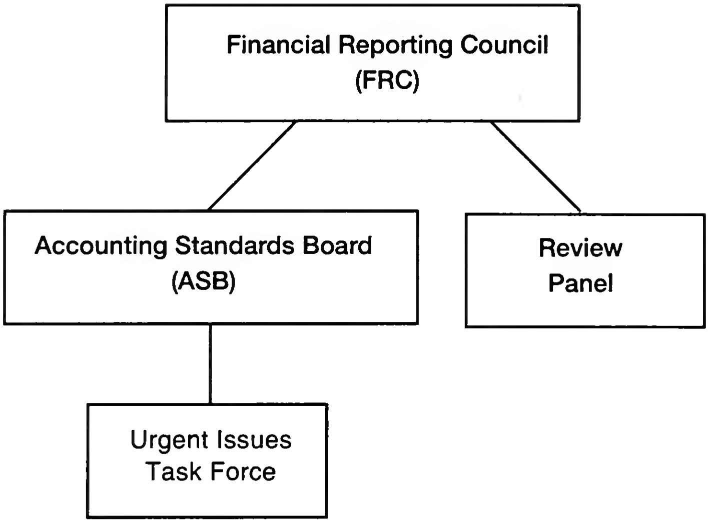

Fig. 3. The basic structure of the new standard-setting system. Source: Dearing (1990).

Sir Ron Dearing is the first chairman of the FRC. He has secured the £3.4 million to finance the new system. Funding is expected to come from the accountancy profession (£1.2 million), the Government (£1.2 million) and the financial sector (£1 million), (*Public Finance and Accountancy*, April 13, 1990, p. 17).

The ASB is more compact than its predecessor. It consists of a full-time chairman and a full-time technical director, plus seven standard-setters (*Public Finance and Accountancy*, 6 July, 1990). The Board is to issue standards on its own authority. An offshoot of the ASB is the Urgent Issues Task Force (UITF). Its task is to tackle urgent matters not covered by the ASB and to endow operations of the ASB with greater plasticity. The function of the Review Panel is to examine and question departures from accounting standards by large public companies. The main purpose of the Panel is to ensure fair presentation of information in financial statements. On the whole, the designers of the new system appear to have succeeded in remedying a number of deficiencies of the former ASC and in building a structure with a high potential of survival in the troubled times ahead.

In contrast to its predecessor, one of the first major initiatives of the ASB is the development of a conceptual framework to be known as the Statement of Principles for Financial Reporting. The main objective of the Statement is "to provide a framework for the consistent and logical formulation of individual accounting standards ... (and) a basis on which others can exercise judgments in resolving accounting issues" (ASB, 1991, para. 1). The Statement is to contain seven chapters, of which draft of the following five have already been exposed for comment, namely the drafts of chapters dealing with the objectives of financial statements, the qualitative characteristics of financial information, the elements of financial statements, the recognition of items in financial statements and presentation of financial information. The drafts on chapters dealing with the measurement of items in financial statements,

and the reporting entity are yet to be issued. (Davis, 1992, pp. 78–79). The drafters of the exposed chapters have drawn on the materials available both at home and abroad, particularly that by the FASB.

5.3 FASB in the United States

The environment in the United States is much less favorable to the FASB than the environments of standard-setting agencies in Canada and the United Kingdom. To survive, the FASB was forced from the beginning to adopt a compact organizational structure, an extensive due process in its interactions with the environment, and a comprehensive conceptual framework in developing standards. The standards that the FASB produces tend to be much more detailed than the standards in Canada and the United Kingdom.

So far, its organizational structure and processes have enabled the FASB to hold its own in the face of numerous attacks and criticisms of both its operations and standards. The Board considers all such criticisms without delay and takes appropriate remedial action. In the case of the Congressional Subcommittee chaired by representative John E. Moss questioning the FASB's independence, for example, the trustees of the Financial Accounting Foundation immediately directed "their Structure Committee to conduct a comprehensive review of the FASB policies and operations" (Pacter, 1983). As a result of the Committee report, "numerous recommendations, including a change to a simple majority to approve pronouncements, ... greater attention to the economic impacts of proposed recommendations, and various measures to accelerate the pace of Board operations and enhance the Board's image of independence" have subsequently been introduced (Zeff 1979). The FASB is a powerful standard-setting organization. As strong as the FASB is, however, it too is potentially vulnerable. The vulnerability lies in the ever-growing number of its standards.

We know that the environment is correlative with a system. Consequently, the environment expands and intensifies its influence on the system inasmuch as it unfolds its influence on the environment. The increasing growth in the FASB standards is likely, therefore, to intensify environmental reactions to them in the form of criticisms and attacks on the FASB. In order to reduce such negative reactions, a reduction in the growth of standards is advisable. Moreover, it is unlikely that the FASB's present conceptual framework will be sufficient in holding together the continued expansion of accounting standards. If unchecked, such an expansion will lead sooner or later to a major restructuring of the FASB. What is needed is reintegration of differentiating standards with the aid of new and finer integrating mechanisms.

6. Conclusions

The basic assumption of this paper is that survival is one of the central goals of standard-setting agencies in the private sector. To survive in the absence of definitive selection criteria in the development of accounting standards and the presence of competing economic impacts of standards on the parties to standard-setting, the

agencies have been forced to take account of and adapt to their highly politicized and generally changing social and economic environments.

Systemic adaptations, in the form of more expedient organizational structures and processes, and the building of external support, usually followed major financial and auditing crises. Essentially, these adaptations have represented a transition from one dynamic equilibrium between the agencies and their environments to a new equilibrium. The transitions have usually been accompanied by a growth in financial and non-financial support given to the agencies and in a better harmonization of their organizational structures and processes. More specifically, replacements of the APB by FASB in the United States, the AcSC by AcSB in Canada, and the ASC by ASB in the United Kingdom have resulted in more compact organizational structures, i.e. smaller, more full-time memberships and staffs, quicker response to emerging issues, and thus greater plasticity of the agencies. Independence of the agencies from the profession has also increased in the United States and in the United Kingdom.

Other changes include a movement of standards in the direction of elimination of accounting alternatives with greater specificity, and the development of more elaborate and comprehensive conceptual frameworks for financial reporting, particularly in the United States and United Kingdom. The need for such frameworks has become increasingly more apparent with the rise of economic consequences of accounting standards, growing complexity of the environment of accounting, and recognition of the difficulties posited by Arrow's impossibility theorem. Essentially, such frameworks have become necessary not only because they assist standard-setters in the formulation of standards and others in the exercise of judgment, but also because conceptual frameworks serve as bases for the development of convincing justifications for positions taken by standard-setters both in national and international accounting forums.

Basically, the above changes have been pioneered by the American accounting profession. In combination, they have enabled the FASB to overcome the destructive influences of the environment on a larger scale and to ensure the retention of standard-setting in the private sector. Adoption of similar measures in Canada and the United Kingdom is likely to enhance considerably the ability of the newly established Boards to struggle successfully with their respective environments.

The notion of crisis is universal and particularly relevant to the present study, for the environment of standard-setting agencies is in a continual flux; nothing remains constant, everything in it is in a state of growth and decay, movement and activity. Timely identification of both the crises affecting financial reporting and auditing and of their tendencies is, therefore, crucial to the design of appropriate responses by the agencies to the expected changes in their environments.

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Notes

1. The Canadian AcSC and the British ASC have recently been replaced by Accounting Standards Boards. The major changes in the organization and the standard-setting approaches of these boards are reviewed in the final section of this paper.

2. The conceptual aspects of the model are based mainly on the work by A. Bogdanov (1984). See also the papers, by Gorelik (1975, 1987, 19 pp)

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Stock Valuation Methods of Financial Analysts in a Thin Stock Market in Sweden, with Comparisons to the United Kingdom and the United States

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Key words: Financial analyst; Stock valuation; Information sources; Forecasting; Questionnaire survey

Abstract: *Surprisingly little is known of the differential market microstructures which affect security pricing, and more importantly, little is known of the differential methods of security analysis used by the principal providers of security information in various international markets. Previous research has indicated that US and UK financial analysts differ in their approach to security evaluation. The main purpose of this study is to extend previous research of US and UK financial analysts methods of security valuation to Sweden. Results indicate that Swedish analysts do not use technical analysis (past price history) as frequently as US and UK analysts. One reason for the reduced reliance on technical analysis by Swedish analysts may be the structure of the Swedish market (e.g., thin trading).*

The removal of international investment restrictions has increased interest in the benefits of global investment. For instance, the recent removal of investment restrictions in Sweden has now opened all Swedish securities to foreign investors. While recent advances in financial technology have made international security prices immediately available to investors, less is known of the differential market microstructures which affect security pricing and, more importantly, little is known of the differential methods of security analysis used by the principal providers of security information in various international markets. Previous research has indicated that US and UK financial analysts differ in their approach to security evaluation. The main purpose of this study is to extend previous research of the US and UK financial analysts' methods of security valuation to Sweden.

In this study, a questionnaire, similar to that given in previous studies of US and UK financial analysts, is used. Results indicate that the US analysts undertake a more formal analysis than UK or Swedish analysts. Results also indicate that Swedish analysts do not use technical analysis (past price history) as frequently as US and UK analysts. One reason for the reduced reliance on technical analysis by Swedish

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analysts may be the structure of the Swedish market (e.g., thin trading). The results of this analysis, therefore, indicate that fundamentally different approaches to firm analysis may be required in countries with different microstructure. Comparative studies of asset risk and return determinants must take into consideration different approaches to security analysis.

1. The Stockholm Stock Exchange

This section will give a brief description of the Swedish stock market. The Stockholm Stock Exchange can be considered as a thin stock market in comparison with large stock markets as, for instance, the London and New York stock exchanges. The Stockholm Stock Exchange market value of shares of domestic companies was $97 million US in 1991.[1] The size of the Stockholm Stock Exchange is comparable to those in, for instance, Amsterdam, Madrid, Hong Kong and Korea. The Stock Exchanges in London and New York are approximately 10 and 30 times larger than the Stockholm Stock Exchange. The same relationship in comparison with London and New York stock exchanges holds for both the market value of trading volume in shares and the total number of transactions in equity shares. The turnover velocity of domestic shares is 21.2 percent in Stockholm, 32.1 percent in London and 40.4 percent in New York.

There are between 25 and 30 major Swedish brokerage firms trading in the Stockholm Stock Exchange and over 400 financial analysts following and analyzing the 200 listed companies. The brokerage firms in Sweden are organized in the same way as in the United Kingdom and the United States. In comparison with London and New York stock exchanges the Stockholm Stock Exchange can be classified as a thinly traded stock exchange.

Claesson (1987) has shown that the efficiency in the Swedish stock market has increased dramatically in the 1980s. Claesson has tested, for instance, filter strategies and auto-correlations. In comparison with results from the 1970s, where test results indicated inefficiencies on the weak level, the pricing mechanisms in the Stockholm Stock Exchange in the 1980s were efficient on the weak level and partly on the semi-strong level.

In the following section, we summarize previous survey literature on alternative forms of security analysis conducted in various countries. The third section presents the construction of the questionnaire, and describes sample selection and response rates. In the fourth section we summarize the results of the questionnaire to Swedish analysts. The results are then compared with previous questionnaires to US and UK analysts. In the final section we provide conclusions as well as suggest areas of future research.

2. Security Analysts and Security Appraisal

Because of the role played by financial analysts in the stock market as an information intermediary between sources of firm information and the investor, it is important to

investigate the procedures they follow in making evaluative decisions concerning share appraisals. The principal approaches used by financial analysts in security appraisal can be summarized as fundamental analysis, which means the analysis of such factors as general economic conditions, industry outlook, earnings, dividends, and quality of management; technical analysis, which means an analysis of market-based factors such as share price movements and charts; and beta analysis, which means the responsiveness of the price of a particular company's share to changes in the value of some market average.

Financial analysts have been shown to play central roles in security valuation. Bhushan (1989) has shown that security return variability is related to the number of analysts covering a firm. While a number of studies have been conducted on the impact of analyst earnings forecasts and buy/sell recommendations and firm value, surprisingly little research has been conducted on the alternative methods of security valuation used by financial analysts. Earlier survey studies on financial analysts' methods in the United States and the United Kingdom have focused on key variables (e.g., earnings) and information sources (e.g. annual reports) used by financial analysts. An analysis of the various approaches used by financial analysts in various countries is important to understand the international nature of the analysis process and to see if different financial market structures (e.g., size of the stock market) lead to different approaches to investment analysis.

An early comprehensive study of US analysts was undertaken by Arnold and Moizer in the late 1970s. Their study started with unstructured interviews with financial analysts from six firms. The principal share appraisal technique used by all analysts was fundamental analysis. None of the analysts interviewed used technical analysis or beta analysis. The objective of the fundamental analysis was to predict the share price, usually not more than one year ahead. This prediction involved estimating earnings for the current and next years and applying an appropriate p/e ratio to the estimated earnings in order to predict future market price. The predicted market price was then compared with the current market price to check if the share was under- or overvalued.

Arnold and Moizer conducted a questionnaire survey in 1981 on the UK market. The questionnaire contained 100 individual questions and was sent to a UK sample of analysts from the European Federation of Financial Analysts' Societies. The primary key variables in fundamental analysis were p/e ratio, EPS, various financial ratios, dividend yield, and net assets. The average forecasting period was between 18 months and two years. The most frequently used factors in forecasting were EPS, pre-tax profits, dividends, and p/e ratio. The most influential information sources were the profit and loss account and balance sheet, interim results, and discussions with company personnel. More than 20 percent of the analysts had discussions more than three times a year with company personnel. The discussions mainly concerned reasons for the company's past trading performance, details of management's long-term objectives, and plans and the reasons for balance sheet changes.[2]

Arnold and Moizer repeated in 1982 their UK study with a sample of US analysts from the Financial Analysts Federation. The results are published in Arnold et al., (1984). Fundamental analysis and beta analysis are used more frequently by US analysts. They use various financial ratios and estimated NPV of future cash flow

more frequently. They produce earnings forecasts approximately 2.5 years ahead, compared to UK analysts' two years. One interesting observation is that UK analysts more frequently estimate the future dividend yield. The US analysts place more importance on information sources, such as the balance sheet, income statement, source and application of funds, unqualified and qualified audit reports, statistical and information services, and trade journals. The UK analysts, on the other hand, place more emphasis on the chairman's statement and government publications and statistics. Arnold et al. (1984:15) concluded that:

> the differences appear to conform to a general pattern that US analysts undertake more formal analysis than do their UK counterparts.

Additional international comparisons regarding the use of information sources has been conducted by Belkaoui et al. (1977), Firth (1978), and Chang and Most (1981). Belkaoui et al. found that North American analysts are more concerned with the income statement and corporate earning power, while European analysts are more debt oriented, with analysis concentrated on the balance sheet. Both Firth, and Chang and Most's conclusions differed somewhat from the results of Arnold et al. (1984). Firth found that UK analysts attach more importance to forecasts than do US analysts. Chang and Most found that advisory services are more important to US analysts and that corporate annual reports and communications with management are more important to UK analysts. These findings are not supported by Arnold et al. who, on the contrary, found that US analysts attach more importance to forecasts and also consider the annual report and communications with management more important than do UK analysts.

3. Methodology

In this study an extended version of Arnold et al.'s questionnaire used Swedish analysts. This method has two advantages. First, there was no need to conduct a pilot study because research results from other countries are available. Second, it enables comparisons with results from the United Kingdom and the United States.

The Swedish questionnaire was mailed to all 655 members of the Swedish Financial Analysts Federation in May 1991.[3] Three reminding letters were sent in May, June, and August. A total number of 273 replies could be used for an analysis. The response rate amounts to 74 percent,[4] which is more than that of Arnold et al. Their UK response rate, although with only one reminder, amounted to 60 percent and the US response rate to 39 percent.

There are always translation problems in comparing questionnaires between different countries and especially in different languages. The questions need to reflect the appropriate conditions for each country. For instance, the content in the annual reports could differ between countries owing to accounting traditions or regulations. The Swedish questionnaire was modified after discussions with American colleagues and necessary adjustments regarding terminology were made which reflected conditions in Sweden.[5] These adjustments were necessary to strengthen the convergent validity.[6]

To check for non-response bias, we first conducted a statistical non-response bias test according to Oppenheim (1966). The first 50 replies received were compared with the 50 last ones. We found no evidence of significant difference, using the Mann–Whitney *U*-test, in responses from the Swedish group of analysts. Second, in order to determine the reason for non-response, a 20 percent random sample of non-responsers were contacted by telephone, i.e., a total number of 32 non-responsers. Eighteen of them no longer worked as financial analysts. The rest did not reply because of personal reasons or work constraints.

The Swedish results were compared with the UK and US results. A significance level of 5 percent was chosen as the critical level for reporting differences between the countries. The Mann-Whitney *U*-test was used to compare the ordinal scale answers, and the χ^2 test to compare the categorical responses.

4. Results

This section reports the results of the questionnaire survey. It is particularly concerned with (1) the appraisal methods used by analysts, (2) the forecasts they make, and (3) the sources of information they believe to be important. The section ends with a comparison between the result from the Swedish questionnaire and the results reported in Arnold et al. (1984). The comparable results from their UK and US studies can also be found in the tables reported here.

The average Swedish analyst has been working as a financial analyst between six and seven years, spends approximately one third of his/her working week appraising shares, and analyzes 13 companies on a regular basis.

Appraisal Methods

Fundamental analysis is clearly the most frequently used technique in stock valuation. The figures in Table 1 show that beta analysis is the second most used method and technical analysis comes third. However, the use of both technical and beta analysis is very low. Analysts sometimes, seldom or hardly ever use these methods in stock valuation. For instance, nearly 90 percent of the analysts seldom or hardly ever use technical analysis, while more than 90 percent used fundamental analysis almost always.

Table 2 shows how frequently analysts use different variables when appraising shares. The most frequently used variables are net assets, estimate of true value of p/e ratio, and estimate of market value by applying p/e ratio to a forecast of next year's earnings. The results reinforce the impression from Arnold and Moizer (1984) that the P/e ratio is a very useful tool in estimating the company's market value.

The most often used financial ratios were debt/equity ratios and return on equity. Even an estimate of the company's investments is used quite often. The variability in EPS, share price standard deviation, and stock turnover are not frequently used. Estimating the NPV of future cash flows is used infrequently compared to its widespread use in textbooks around the world. [7]

Table 1. Frequency of use of methods of stock valuation

	Almost always 96–100%	Usually 66–95%	Sometimes 36–65%	Seldom 6–35%	Hardly ever 0–5%	Average[a]
Technical Analysis						
Sweden	1.1	2.9	6.6	13.9	75.5	11.5
UK[b]	10.9	12.9	29.7	24.8	21.8	41.7
US	15.8	15.8	15.8	20.8	31.7	41.2
Beta Analysis						
Sweden	0.7	7.4	24.2	34.6	33.1	26.8
UK[c]	2.0	4.5	18.4	24.4	50.7	21.1
US	4.9	15.7	22.6	18.6	38.2	33.6
Fundamental analysis						
Sweden	91.2	7.7	0.7	0	0.4	95.9
UK[c]	76.1	19.9	2.5	1.5	0	92.2
US	86.2	9.8	2.0	0	2.0	93.5

[a]Responses are summarized as means, based on the midpoints of each frequency interval.
[b] No significant difference between UK and US responses.
[c] Significant differences between UK and US responses.
The difference between Sweden and the United Kingdom are significant for all methods. The differences between Sweden and the United States are only significant for the technical analysis method.

Analysts' Forecast

Normally the analyst considers the company's performance during the previous three to five years when appraising a share. Virtually all analysts forecast some aspects of the performance of the company or of its stock. The analysts' forecasting period is on average 22 months. Of the factors shown in Table 3, earnings per share and earnings after financial income and expenses are the most frequently used forecast. Other factors which are commonly used are turnover, p/e ratio, net assets, and return on equity.

When forecasting earnings per share the most commonly used method of amortizing goodwill is a straight-line deduction over 10 years, which 105 analysts used; 87 used the immediate write-off deduction, 32 used straight-line deduction over more than 10 years, 23 used straight-line deduction over five years, and 15 followed the method used by the companies themselves.

Influence of Information Sources

Table 4 reports 16 possible sources of information and indicates how influential each one is perceived to be.

Analysts emphasize the company's annual profit and loss account, balance sheet, and interim results as information sources. Notes to the financial statements and discussions with company personnel are also of great importance. Most analysts discuss a company's performance at least twice a year, and approximately 30 percent have such discussions three times or more each year. By establishing good relations with company personnel the analyst may be able to create an advantage over other analysts.

Table 2. Factors considered in share appraisal

	Almost always 96–100% (in percentages)	Usually 66–95%	Sometimes 36–65%	Seldom 6–35%	Hardly ever 0–5%	Average[a]
Company's net asset value						
Sweden [c,d]	53.9	27.3	14.8	2.6	1.5	82.8
US	34.7	30.6	23.5	10.2	1.0	72.5
UK	30.7	29.6	27.6	10.6	1.5	70.1
Estimate of "true" value of p/e ratio						
Sweden [d]	56.8	26.9	10.7	4.4	1.1	83.7
US	51.5	28.3	9.1	7.1	4.0	79.4
UK	46.9	33.7	12.8	3.6	3.1	80.4
Estimate of market value by applying p/e ratio to a forecast of next year's earnings						
Sweden [c,d]	58.5	24.1	10.7	5.6	1.1	83.3
US	51.5	24.2	8.1	8.1	8.1	75.9
UK	42.1	28.9	12.7	9.6	6.6	73.1
Estimate of future dividended yield						
Sweden[d]	15.4	27.2	31.3	22.4	3.7	57.5
US[b]	30.3	18.2	25.3	14.1	12.1	60.3
UK	44.2	29.9	17.3	6.1	2.5	77.4
Estimate of NPV of future cash flows						
Sweden[d]	19.9	23.9	30.5	18.8	7.0	58.2
US[b]	25.3	18.2	22.2	13.1	21.2	53.9
UK	8.2	7.7	21.5	25.1	37.5	31.2
Various financial ratios[e]						
US[b]	53.3	27.3	15.2	2.0	2.0	82.5
UK	35.2	30.2	22.1	6.0	6.5	71.4
Return on equity[f]	62.6	26.0	9.5	1.5	0.4	87.5
Return on capital employed	38.9	32.2	14.4	11.5	3.0	73.7
Debt/equity ratios	61.9	31.1	5.5	1.1	0.4	88.8
Liquidity ratios	35.5	32.6	20.1	9.5	2.2	73.2
Estimate of Company's investments	38.5	34.1	22.0	4.4	1.1	77.2
Variability in EPS	16.2	24.0	28.4	23.6	7.7	54.6
Share price last 12 months	22.6	29.3	24.1	16.3	7.8	61.4
Share price standard deviation	6.3	14.8	40.4	25.2	13.3	44.0
Stock turnover	16.7	25.2	25.2	22.2	10.7	54.2

[a]Responses are summarized as means, based on the midpoints of each frequency interval.
[b]Significant difference between UK and US responses.
[c]Significant differences between Sweden and UK responses.
[d]Significant differences between Sweden and UK responses.
[e]This factor was not used in the Swedish questionnaire.
[f]The last nine factors were only included in the Swedish questionnaire.

The unqualified audit report, statistical and information services, government publications and statistics, financial press, and other financial analysts are considered less influential. It is surprising that other financial analysts play such an unimportant role. Most probably, analysts are following their competitors' share recommendations and EPS forecasts to determine the expectations that are hiding in the share price.

Table 3. How often the following factors are forecast

	Almost always 96–100% (in percentages)	Usually 66–95%	Sometimes 36–65%	Seldom ever 6–35%	Hardly 0–5%	Average[a]
Turnover (sales)						
Sweden[c,d]	66.5	20.7	8.3	3.0	1.5	86.7
US[b]	57.6	25.3	6.1	7.1	4.0	81.5
UK	31.9	23.2	21.1	7.0	16.8	62.4
Cash-flow						
Sweden[d]	38.0	32.3	22.8	4.9	1.9	75.8
US[b]	43.4	30.3	19.2	2.0	5.1	77.2
UK	25.5	25.5	29.8	9.0	10.1	62.7
Dividends						
Sweden[d]	42.4	26.9	17.8	10.2	2.7	74.4
US[b]	46.5	21.2	16.2	8.1	8.1	72.7
UK	59.0	23.6	8.7	1.0	7.7	81.6
Earnings per share						
Sweden[d]	78.2	17.7	3.0	0.8	0.4	92.6
US	74.7	18.2	1.0	2.0	4.0	88.9
UK	74.6	16.1	3.1	0.5	5.7	87.9
p/e ratio						
Sweden[d]	62.9	19.5	9.8	4.3	3.5	83.3
US	61.5	19.8	3.1	8.3	7.3	79.7
UK	54.2	26.0	7.3	2.6	9.9	78.5
Market value of the share						
Sweden[c]	33.3	23.4	17.7	12.1	13.4	63.2
US[b]	61.3	20.4	9.7	3.2	5.4	82.2
UK	35.5	20.9	15.8	9.6	18.1	62.1
Earnings after financial income and expenses[e]	79.3	16.5	3.0	0.8	0.4	92.7
Earnings after extraordinary items	47.8	20.6	16.6	9.9	5.1	74.0
Net assets	50.8	28.6	12.6	5.3	2.7	80.3
Return on equity	52.5	27.0	14.4	3.8	2.3	81.3
Return on capital employed	29.2	26.8	22.6	14.8	6.6	64.8

[a]Responses are summarized as means, based on the midpoints of each frequency interval.
[b]Significant difference between UK and US responses.
[c]Significant difference between Sweden and US responses.
[d]Significant difference between Sweden and UK responses.
[e]The last five factors were only included in the Swedish questionnaire.

Industry-Specific Variables

Neither Arnold et al. (1984) nor other researchers have investigated the possibility that influences on variables for share appraisal differ between industries. It is possible that some detailed information from the respondents disappears by aggregating sections which are heterogeneous between themselves. This is in accordance with the results of the Swedish questionnaire.

Table 4. Influence of various information sources

	Average[a]			Rank		
	Sweden	US	UK	Sweden	US	UK
Company's annual report						
Chairman's statement	4.30	3.01[c]	3.70	6	13	6
Directors' report	4.27	3.20[b]	3.36	7	10	8
Administration report	4.02	–	–	9	–	–
Balance sheet	4.79	4.51[c]	4.31	1	2	2
Profit and loss account	4.78	4.61[c]	4.34	2	1	1
Source and application of funds	4.22	4.24[c]	3.79	8	3	5
Notes to the financial statements	4.48	–	–	4	–	–
Current cost data	–	3.02[b]	3.12	–	12	10
Unqualified audit report	2.49	2.91[c]	2.05	16	14	15
Qualified audit report	–	3.91[c]	3.51	–	4	7
Five year summary	3.83	–	–	11	–	–
Interim results	4.55	3.90[b]	4.09	3	5	3
Government publications and statistics	3.55	2.59[c]	2.78	12	15	13
Statistical and information services	3.30	3.24[b]	3.10	14	8=	11
Financial press	3.93	3.12[b]	3.19	10	11	9
Industry publications, trade journals	–	3.28[c]	2.74	–	7	14
Company personnel	4.46	3.88[b]	3.90	5	6	4
Other financial analysts	3.40	3.24[c]	2.79	13	8=	12
Employee newsletter	3.09	–	–	15	–	–

[a]Responses are summarized as means, based on a five-point scale: 5 (vital influence); 4 (major influence); 3 (some influence); 2 (minor influence): and 1 (no influence). All differences between Sweden and the United Kingdom are significant. All differences between Sweden and the United States are significant except Statistical and information services. Other financial analysts and Source and application of funds.
[b]No significant difference between UK and US responses.
[c]Significant difference between UK and US responses.

Table 5. Industry-specific factors considered in share appraisal

	Forestry	Engineering	Real estate	Banks	Retail	Investment trust	Service
EPS (62–166)	1.80 (1)	1.70 (1)	3.26 (5)	1.99 (1)	1.70 (1)	3.08 (3)	2.03 (1)
Return on equity or capital employed (66–168)	2.84 (3)	2.66 (2)	3.44 (6)	2.44 (2)	2.80 (4)	3.23 (4)	2.98 (5)
Net assets (71–206)	2.76 (2)	3.43 (6)	1.64 (1)	3.18 (5)	3.37 (7)	1.52 (1)	3.51 (7)
Management skill (157–189)	2.94 (5)	1.79 (4)	3.12 (4)	2.75 (3)	2.69 (3)	2.61 (2)	2.21 (2)
Employee skill (16–122)	3.25 (6)	3.44 (7)	4.03 (8)	3.55 (7)	3.22 (6)	3.74 (8)	2.91 (3)
Cash-flow (54–180)	3.40 (7)	3.42 (5)	2.83 (2)	3.47 (6)	3.16 (5)	3.38 (6)	3.38 (6)
Working capital (13–37)	4.00 (9)	4.13 (9)	4.16 (9)	3.86 (9)	3.80 (8)	4.07(10)	4.31 (9)
P/e ratio (23–124)	2.93 (4)	2.67 (3)	3.70 (7)	2.76 (4)	2.64 (2)	3.51 (7)	2.96 (4)
Dividend yield (56–110)	4.32 (10)	4.22 (10)	4.26 (10)	4.22 (10)	4.40 (10)	4.06 (9)	4.36 (10)
Debt/equity (83–192)	3.37 (8)	3.99 (8)	3.04 (3)	3.75 (8)	4.13 (9)	3.29 (5)	4.04 (8)

The five most important factors/industry is ranked: 1 = most important; 2 = next most important; etc.
The parenthesis after each factor show the highest and lowest response rate.

The respondents were requested to rank the five most important variables in seven industries. Table 5 reports that the largest differences between industries are due to EPS and net assets. EPS are most important in forestry, engineering, banks, retail, and services.

Net assets, on the other hand, are most important in real estate and investment trusts. Investments in real estate shares should in the long run be a proper hedge against inflation. For both the real estate and investment trusts there exists an active

second-hand market for their assets. This makes the net assets an efficient tool for stock valuation in both these industries. Debt/equity ratios are also more important in real estate and investment trusts.

Management and employee skills are more important in service industries. The earnings ability and the value of the service companies rely heavily on management and employee skills. Cash flow is ranked higher in real estate because the revenues and costs are easier to forecast. Therefore, specialists in the real estate industry use the net present value of future cash flows more often in stock valuation.

Comparison with Arnold et al.

The Swedish questionnaire was a repeated and extended version of the study by Arnold et al. (1984). Although nearly 10 years have passed since they conducted their study, it is interesting to compare the results with the Swedish results. If there are differences between the countries, one explanation could be that the methods in stock valuation have changed during this period. However, in a more recent study by Carter and Van Auken (1990), they found that the most frequently used techniques in the United States were fundamental analysis, followed by technical analysis and portfolio analysis. This result is in accordance with Arnold et al. (1984), which indicates that the techniques have not changed dramatically in the United States during the 1980s.

In comparison with the Swedish analysts the US and UK analysts are generally more experienced (16 and 12 years), spend more of their working week appraising shares (approximately 60 percent in both countries) and analyze more companies than their Swedish counterparts (approximately 40 companies in both countries).[8]

Fundamental analysis is the most frequently used technique in all three countries. The figures from Table 1 show that technical analysis is the second most used method in the United States and the United Kingdom, while Swedish analysts on the contrary use beta analysis more frequently. However, analysts in all three countries sometimes, seldom or hardly ever use these methods in stock valuation. For instance, nearly 90 percent of the Swedish analysts seldom or hardly ever use technical analysis.

The most frequently used variables in fundamental analysis for all countries are estimate of true value of p/e ratio, and estimate of market value by applying p/e ratio to a forecast of next year's earnings and net assets. Estimates of future dividend yield are used more frequently in the United Kingdom and estimates of NPV of future cash flows are used more frequently in the United States and Sweden. Both net assets and estimates of market value by applying a p/e ratio to a forecast of next year's earnings are used more often in Sweden than in the United Kingdom and the United States. The Swedish questionnaire did split the variable various financial ratios into return on equity, return on capital employed, debt/equity ratios and liquidity ratios. The most often used variables were debt/equity ratios and return on equity.

There were differences in the time horizon when forecasting earnings. Swedish and UK analysts forecast earnings over a significantly shorter period, on average between 22 and 23 months. US analysts forecast on average nearly 30 months ahead. Of the factors shown in Table 3, earnings per share is the most frequently used forecast in all countries. Other factors which are commonly used are the p/e ratio

and dividends. Turnover and cash flow are most frequently forecast in Sweden and the United States. Market value of the share is more often forecast in the United States.[9]

The content of the annual reports has developed throughout the years, which means that comparisons between different years and countries become very complicated. Therefore, it is better to focus on the ranking among the variables and use them when comparing the countries. Analysts in all three countries emphasize the profit and loss account, balance sheet, and interim results as information sources. Discussions with company personnel are also of great importance. Source and application of funds, statistical and information services, and other financial analysts are regarded as more influential by US analysts, whereas chairman's statement and directors' report are more influential according to Swedish and UK analysts. Notes to the financial statements are important complements to the Swedish analysts.

5. Conclusions

The removal of international investment restrictions has increased interest in the benefits of global investment. For instance, the recent removal of investment restrictions in Sweden has now opened all Swedish securities to foreign investors. While recent advances in financial technology have made international security prices immediately available to investors, less is known on the differential market microstructures which affect security pricing and, more importantly, little is known on the differential methods of security analysis used by the principal providers of security information in various international markets.

This study has focused on the methods of stock valuation used by financial analysts in Sweden. A questionnaire similar to that given in previous studies of United States and United Kingdom financial analysts is used. It has also reported the type of forecasts financial analysts make and the sources of information they believe to be important. Fundamental analysis is the most frequently used technique in all three countries. The total dominance of fundamental analysis could be explained by the fact that the analyst needs to be well prepared and to present detailed facts of the companies, whenever they are in contact with clients, security traders or portfolio managers. Fundamental analysis is the technique which best fulfills the receivers' information needs.

Technical analysis comes second in both the United States and United Kingdom, while beta analysis is number two in Sweden. The minor use of technical analysis in Sweden could be a result of the lack of many investors and, consequently, the small turnover on the Swedish stock market. The most frequently used variables in all countries are net assets, estimate of the true value of the p/e ratio, estimate of market value by applying the p/e ratio to a forecast of next year's earnings, and various financial ratios. Dividend yield is more commonly used in the United Kingdom and NPV of future cash flows are used more often in the United States and Sweden.

Both Swedish and UK analysts forecast EPS for a significantly shorter period than US analysts. The most striking difference between the countries is the forecast of the market value of the share. US analysts forecast this variable more often than

do their UK and Swedish counterparts. One possible explanation for this difference could be the use of more formal analysis in the United States. The work environment, with large investors' narrow focus on their own monthly and quarterly return, prompts the analyst to forecast the market value of the shares more frequently in the United States.

The annual report is surprisingly influential as an information source to the analysts. They emphasize the company's annual profit and loss account, balance sheet, and interim results as information sources. This creates opportunities for the analysts who are well trained in accounting to have an advantage over other analysts. Nearly all variables were given higher impact by the Swedish analysts than their US and UK counterparts. One reason could be that the minimum level of disclosure in the annual reports differs between the countries. Another could be the time difference between the questionnaires.

Discussions with company personnel are also of great importance. Through establishing good relations with company personnel, an analyst hopes to create an advantage over other analysts. Source and application of funds, statistical and information services, and other financial analysts are regarded as more influential by US analysts, whereas the chairman's statement and directors' report are more influential according to Swedish and UK analysts. An interesting observation is that other financial analysts have such a high ranking number. Most probably analysts are following other financial analysts' recommendations, because they need to know their competitors' share recommendations and EPS forecasts to be able to estimate the expectations that are hidden in the share price.

The results of this analysis, therefore, indicate that fundamentally different approaches to firm analysis may be required in countries with different microstructure. Comparative studies of asset risk and return determinants must consider different approaches to security analysis.

This study also found that industry-specific variables for share appraisal differ between industries. For instance, EPS are most important in forestry, engineering, banks, retail, and services. Net assets, on the other hand, are most important in real estate and investment trusts.

It is our view that further research in this area would be of great interest to achieve a better understanding of industry-specific methods for stock valuation by financial analysts. Another area of interest is if the minor use of technical analysis is typical for thin stock markets. The lack of large investors and the low turnover could explain the differences between thin and thick stock markets, but this needs further investigation.

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Notes

1. FIBV Statistics, 1991.
2. Lee and Tweedie (1981) used undergraduate students to conduct structured interviews in the form of a prepared questionnaire. The perceived usefulness of various information sources was surprisingly

similar to Arnold and Moizer's. Chugh and Meador (1984) investigated US financial analysts' attitudes towards the importance of different variables over the short term (three months) and the long term (five years). Analysts attached greatest importance, in the long run, to the expected change in EPS, expected return on equity, and prospects of the relevant industry. The three most important variables in the short run appeared to be prospects of the relevant industry, expected change in EPS, and general economic conditions.
3. The difference in time between the US and UK questionnaires and the Swedish questionnaire is nearly 10 years, which means that it is possible that differences in the replies between the countries could be due to difference in time. It is beyond the purpose of this study, though, to investigate further the most probable reason for the differences.
4. The Swedish Financial Analysts Federation also contains non-active members. The estimated number of active members is 372. The response rate is therefore 273/372 = 74 percent.
5. For instance, in Sweden it is easier for the auditor to approve extraordinary items. Hence, the Swedish questionnaire contains factors from the profit and loss account which reflect earnings before and after extraordinary items.
6. The convergent validity was also examined quantitatively by factor analysis. Three of the questions were tested, and they included 11, 14, and 17 variables. The factors developed from the factor analysis were both logical and relevant concerning the variables that were included in the factors which strengthens the convergent validity as well.
7. The problem using NPV of future cash flow can best be summed up by quoting one of the Swedish financial analysts: "The only interesting method is the NPV of future cash-flow, which is completely impossible to use because we are living in an unpredictable world."
8. The US and UK response alternative were not directly comparable to the Swedish because the United States and United Kingdom used larger frequency intervals.
9. Five variable from the US and UK questionnaires were not included in the Swedish questionnaire, mostly because they were more or less impossible to translate to Swedish conditions. The five variables were: income before interest expense, ratio of income to invested capital, before-tax income, after-tax income, and ratio of sales to invested capital. The most frequently used were earnings after financial income and expenses, net assets, and return on equity.

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Voluntary Disclosures and the SEC: Rule 144A Private Debt Placements

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Key words: Rule 144A; Securities regulation; Voluntary disclosures

Abstract: *In response to the increasing globalization of financial markets, the Securities and Exchange Commission (SEC) adopted Rule 144A, which facilitates the resale of both foreign and domestic securities that are initially sold in a private placement and are therefore exempt from registration requirements under the Securities Act of 1933. This study provides preliminary evidence on the extent of voluntary disclosures made under Rule 144A. The results indicate that nearly 50 percent of the debt privately placed under Rule 144A between April 1990 and August 1991 was made by issuers/guarantors that were subject to the periodic reporting requirements of the Securities Exchange Act of 1934. Seventy-five percent of the remaining issuers of Rule 144A debt voluntarily chose to disclose information to ratings agencies though they were not required to do so by the SEC. The voluntary disclosures of issuers in the Rule 144A market are consistent with the view that issuers attempt to lower the cost of funds and to increase the chances of a successful offering.*

1. Introduction

The globalization of financial markets has increasingly attracted the attention of regulators, the financial press, and Congress. The Securities and Exchange Commission (SEC) has attempted to make the US capital markets more attractive for foreign issuers by clarifying regulations and streamlining its disclosure requirements.[1] In April 1990 the SEC adopted Rule 144A to facilitate the resale of foreign and domestic securities that are initially sold in a private placement and that are, therefore, exempt from registration requirements under the Securities Act of 1933. The new rule provides a safe harbor exemption from the registration requirements of the Securities Act of 1933 for the resale of unregistered securities to certain types of institutional investors.

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Rumsey (1991) notes that the issuance of Rule 144A was an attempt by the SEC to make US markets more attractive to foreign issuers by increasing the liquidity in the securities of issuers, while at the same time reducing the likelihood of the imposition of registration, disclosure, and other requirements of the federal securities laws. The approval of this rule has spurred debate in the financial press regarding the role of government regulation versus self-regulation. The following excerpt from an editorial in *Barron's* dated October 15, 1991 summarizes the debate:

> ... now that the SEC has learned that its mandated disclosures are superfluous for big institutional investors, the agency needs to ask itself precisely whom it is protecting anyway. As more and more Moms and Pops leave their investing decisions to mutual funds – many of which qualify for Rule 144A coverage – the argument for mandated disclosure dissolves. There has never been convincing evidence that markets would collapse without SEC-required disclosure. Even without the SEC, of course, investors would be free to demand the disclosures needed for informed decision making.

The purpose of this paper is to provide preliminary evidence on the extent of voluntary disclosures made under Rule 144A. Specifically, this paper uses the actual data on Rule 144A debt placements to assess Press and Weintrop's (1992) claim that a shift to privately placed debt under Rule 144A is likely to alter a firm's incentive to provide intermediaries with comprehensive debt contract information, thereby increasing the costs of obtaining information about private debt.

Our results indicate that nearly 50 percent of the debt issued under Rule 144A between April 1990 and August 1991 was privately placed by issuers/guarantors that were subject to periodic reporting requirements of the Securities Exchange Act of 1934. Because these issuers/guarantors are required to file material private debt agreements with the SEC, it is unlikely that there would be a loss of publicly available information relating to debt covenants of these issues. Seventy-five percent of the remaining Rule 144A debt was placed by issuers who voluntarily chose to disclose information to rating agencies although they were not required to do so by the SEC. While there is a potential for information loss to the general public because the information on debt covenants is not readily available, it is unclear that the loss of information would have a detrimental effect on the public since the sale of Rule 144A debt issues are restricted to certain types of institutional investors only.

The remainder of the paper is divided into five sections. Section 2 briefly describes the SEC requirements for background information on Rule 144A, and summarizes how Rule 144A affects domestic and foreign issuers. Section 3 develops the research question, and section 4 describes the sample. Section 5 presents our findings, and section 6 concludes the paper.

2. Background

Securities in the United States can be offered for distribution in public or private markets. To offer a security in the public market, an issuing entity is required to comply with the registration requirements of the Securities Act of 1933. The normal registration requirements involve drafting and filing of a registration statement consisting of the offering prospectus and supplemental information required by the SEC.[2] Issuing firms also distribute a preliminary prospectus (often referred to as red herring), comply with the "Blue Sky" laws,[3] observe a "quiet period" to curtail

publicity of the issuing entity, and undergo a review of the registration statement by the SEC. Once the registration is declared effective by the SEC, the issuing entity is also subjected to the periodic reporting requirements of the Securities Exchange Act of 1934. For example, the entity must file with the SEC detailed audited consolidated financial statements, quarterly unaudited statements and, where necessary, timely notices of reportable events, such as a change in control.[4]

While the SEC has attempted to simplify the registration and reporting requirements, the issuance of securities in the public market still remains a complicated process that requires the help of legal and accounting professionals as well as the advice of experts in the marketing of securities. Many foreign firms find the SEC requirements to be particularly onerous. Choi and Levich (1990) note that the insistence by the US on national treatment (i.e., restatement or reconciliation to US Generally Accepted Accounting Principle (GAAP) and US-style disclosures) imposes additional costs on foreign issuers who are unwilling to bear these costs. Similarly, putting the information in the SEC's format results in out-of-pocket costs and use of management's time and effort. Choi and Levich (1990) also note that foreign issuers operating in countries with limited disclosure requirements tend to be more concerned with the potential competitive costs of additional disclosure.

Securities sold in private markets via negotiated transactions are exempt from the SEC's registration requirements, the presumption being that institutions who buy private placement securities are sophisticated investors with the capacity to assess adequately their own needs for information when making investment decisions.[5] However, to prevent *de facto* unregistered public offerings, the SEC, through Rule 144, required the purchasing institutions to hold privately placed securities for at least two years prior to resale if the securities were bought from the issuer or its affiliate (three years if they were bought from a person other than the issuer or its affiliate). Furthermore, the rule required a new holding period to begin every time a private placement security was resold. Testy (1990) notes that this holding period requirement substantially reduced the liquidity of the privately placed securities which, in turn, reduced the price available to the seller because the purchasing institution demanded an illiquidity discount for such securities.

The perceived costs of issuing securities in either the private or public market have resulted in many foreign issuers avoiding the US market when issuing securities. The passage of Rule 144A was intended to create a new market between the traditional private and public market. Such a market was expected to allow issuers to bypass SEC registration and reporting requirements, while offering an opportunity for active secondary trading in Rule 144A securities.

Specifically, Rule 144A relaxes the registration requirements for resales of private placements among qualified institutional buyers (QIB).[6] It permits the QIBs to resell private placement securities to other QIBs without holding period restrictions. The only securities ineligible for resale under Rule 144A are those that are identical to securities already listed on a US exchange or quoted in a US automated interdealer quotation system and those convertible into such securities within three years.[7]

In terms of disclosure requirements, Rule 144A does not place specific disclosure requirements on an issuer who is a foreign government or a reporting company or a nonreporting exempt company. However, Press and Weintrop (1992) note that a

reporting company must continue to comply with Item 601.b of Regulation S-K by filing material private debt agreements (those in amounts exceeding 10 percent of assets) and by listing them as exhibits 4 or 10 of item 14 of the 10-K. Other issuers of Rule 144A securities are required to provide business and financial information to purchasing institutions who request such information. Information requested may include a statement of the nature of the issuer's business and its products and services as well as financial statements. Trumbull (1990) contends that as other private placement transactions, issuers of Rule 144A securities will disclose sufficient information to satisfy the buyer.

To trade debt and equity securities issued under Rule 144A, the National Association of Securities Dealers has developed an electronic dealing system referred to as Private Offerings, Resales and Trading through Automated Linkages (PORTAL). PORTAL was developed to support the distribution of primary placement of Rule 144A offerings and to facilitate liquidity in secondary trading. Broka (1990) states that the system serves as an information network for QIBs by providing on-line listing, offering, pricing, comparison, and confirmation services.

Seidman (1991) notes that the passage of Rule 144A, together with the development of PORTAL, is likely to increase liquidity and investor participation. As a result, the issuer's cost of raising capital should decrease, which should encourage foreign and US domestic issuers to increase their use of private placements. Rumsey (1991) contends that Rule 144A should save domestic and foreign issuers the time and expense of Securities Act registration. Maher (1990) quotes \$500 000 to \$1 million savings in legal and accounting fees, SEC filing fees, and New York Stock Exchange listing fees, if a company were to issue a US tranche in the Rule 144A market instead of the public market.

According to Moody's Bond Survey (1990), Rule 144A offers several potential advantages, including the ability to time market entry, lower up-front costs such as SEC registration fee and disclosure costs, and a more liquid private placement market. This directly implies that the advantages of Rule 144A should reduce the cost of capital of all issuers involved in a Rule 144A transaction. However, nonreporting nonexempt foreign issuers have the additional advantage of raising capital in the United States at reduced costs without being required to follow US GAAP, or to disclose business and geographical segment data, unless a potential buyer demands such information.

Issuers of debt appear to be enthusiastic with Rule 144A. In a recent survey of chief financial officers, *Institutional Investor* (June 1990, p. 185) reports that 75.6 percent are in favor of Rule 144A, 58.2 percent believe the rule will decrease cost due to increased liquidity, and 47.3 percent of those who had done a private placement recently believe its cost was lower than an equivalent public deal. Twenty-one percent of these executives state that they are more interested in the private placement market because they believe Rule 144A makes that market more attractive than before. In short, Rule 144A now offers an alternative cost-effective method for domestic and foreign issuers to raise equity or debt financing privately in the United States. Glasky (1989) speculates that the most interesting result of Rule 144A will be an increased activity in the private placement market on the part of large, privately held US companies and foreign companies.

3. Prior Research

The financial press has raised concerns as to Rule 144A by emphasizing the potential information loss as a result of relaxing the registration requirements (Siconolfi and Salwen, 1990). Press and Weintrop (1992) examine the potential for information loss by simulating a shift in financing from public to Rule 144A private debt for a random sample of 75 nonregulated New York and American Stock Exchange firms. Assuming that 100 percent of the public debt had been issued under Rule 144A and applying SEC registration and periodic reporting rules and disclosures required by GAAP, they find an approximate 50 percent decrease in debt covenant information available through registrations under the 1933 Securities Act. Because the reporting requirements of the Securities Exchange Act of 1934 would recapture most of the information on covenants lost when debt placements are moved from public to private issuance, Press and Weintrop conclude that Rule 144A is unlikely to change significantly disclosures of accounting constraint data available to financial market participants. However, they predict that the cost of obtaining information will become more expensive if information intermediaries choose not to seek and provide data contained in private debt agreements, and that there will be a net increase in society's information expenditures even if intermediaries bear the costs of obtaining information about private debt.

Meek and Saudagaran (1990) note that in global capital markets firms tend to furnish voluntarily the amount and type of information desired by foreign providers of capital even though disclosure of this information may not be mandated. They base this observation on Choi's (1973a) argument that increased corporate financial disclosure reduces uncertainty regarding a firm's present and future financial affairs. Investors, facing less uncertainty, accept a lower rate of return, thereby lowering the cost of capital to the firm.

Several empirical studies in accounting have found that firms voluntarily increase financial disclosure when entering foreign capital markets. Choi (1973b) examined the relationship between voluntary disclosure levels and a firm's entry into the European capital market and found that an experimental group consisting of an international sample of firms (none of which were from the United States or United Kingdom) significantly increased their voluntary disclosure levels upon entry into the European capital market. However, there was no increase in the voluntary disclosure levels of the control group consisting of firms from the same countries that did not participate in the European capital market.

Meek and Gray (1989) investigate the extent to which the disclosure requirements of the London Stock Exchange (LSE) relating to company annual reports are complied with or exceeded by Continental European companies listed on the LSE. They find that the companies exceeded the LSE requirements through a wide range of voluntary disclosures and that the LSE requirements were minimal relative to competitive pressures associated with the need to raise capital. Similarly, Gray and Roberts (1989) find that stock market pressures tended to dominate political pressures in encouraging voluntary disclosures by British multinationals in foreign countries.

The above discussion suggests that the extent of voluntary disclosures by issuers of Rule 144A debt placements is an empirical question. If voluntary disclosures by

Rule 144A issuers are substituted for the required SEC filings, then there should be no information loss as a result of Rule 144A. Stated formally, the question of interest is:

Research question: Did issuers making private debt placements under Rule 144A voluntarily disclose information of debt covenants to an independent rating agency?

4. Sample Selection

The initial sample was obtained from the SEC staff report on Rule 144A (dated September 30, 1991). This report covers all securities privately placed under Rule 144A from April 24, 1990 to July 31, 1991. For the purposes of this report, a Rule 144A placement was defined to include transactions involving the sale of securities eligible for resale under Rule 144A which the market or market participants have identified as a Rule 144A placement. Private placements were deleted from the initial sample if they involved issuance of American depository receipts, common shares, and preferred shares. The final sample consists of 49 Rule 144A debt placements made by 45 issuers.

5. Empirical Results

Table 1 presents the post-144A reporting status of the issuers/guarantors included in the final sample. Twenty-five Rule 144A debt placements were made by issuers/ guarantors that were subject to the Securities Exchange Act of 1934; eight were made by foreign issuers that had obtained an exemption from the 1934 Securities Exchange Act reporting requirements; 10 were nonreporting US companies, and six were nonreporting nonexempt foreign companies. Since issuers/guarantors subject to the Securities Exchange Act of 1934 must comply with Item 601.b of Regulation S-K by filing material private debt agreements (those in amounts exceeding 10 percent of assets) as Exhibits 4 or 10 of Item 14 of the 10-K, there would be no loss of publicly available information relating to debt covenants for 51 percent (25 of 49) of the Rule 144A debt placement.

Table 2 focuses only on those Rule 144A debt placements for which there is a potential for information loss. It presents, in the form of a contingency table, the incidence of ratings by the rating agencies (e.g., Moody's, Standard & Poor's, and Fitch) for Rule 144A debt placements classified by the post-144A reporting status

Table 1. Post–144A reporting status of the issuers/guarantors making Rule 144A debt placements.

Post-144A reporting status	Frequency
Issuers/guarantors subject to 1934 Securities Exchange Act	25
Issuers/guarantors exempted under Rule 12g3–2(b)	8
Nonreporting US issuers	10
Non reporting nonexempt foreign issuers	6
Total	49

Table 2. Incidence of ratings for Rule 144A debt placements made by exempt, nonexempt, or nonreporting issuers

	Frequency		
Post-144A reporting status	Rated	Nonrated	Total
Issuers/guarantors exempted under Rule 12g3–2(b)	6	2	8
Nonreporting nonexempt foreign issuers	3	3	6
Nonreporting US issuers	9	1	10
Total	18	6	24

of the issuer/guarantor. The row denotes the post-144A reporting status of the issuers/guarantors included in the final sample. The column denotes the presence or absence of a rating and each cell contains the number of observations fulfilling each condition. If issuers/guarantors provided more voluntary disclosures, then there will be a higher incidence of rated securities.

Seventy-five percent (18 of 24) of the Rule 144A debt placements were rated. This result is striking because none of the 24 issuers of Rule 144A debt placements was required to disclose information to the SEC. However, issuers of 18 placements voluntarily chose to disclose to the rating agencies. This evidence is consistent with the SEC staff report dated September 30, 1991 that states:

> Standard and Poor's has developed a system for rating covenant protection that is designed to provide a standard abbreviated format to convey information about the coverage and effectiveness of covenants in Rule 144A placement documentation. Ratings are determined by how well covenants (1) preserve the borrower's repayment capacity; (2) protect against event risk; (3) protect the lender's investment in the event of default or bankruptcy; and (4) provide signals and triggers that allow lenders to monitor the borrower's financial performance and facilitate implementation of remedies. These ratings range from E-1 (which denotes a highest degree of covenant protection) to E-5 (which denotes the lowest degree of protection).

Similarly, in a special comment on Rule 144A private placement published in *Moody's Bond Survey* dated May 21, 1990, Moody's affirmed an ongoing commitment to provide a comprehensive credit analysis and ratings of Rule 144A issues on a timely basis and to provide details of covenant analysis on a selective basis where it believed that such information would add value to the marketplace. In short, under the second scenario, there will be no information loss pertaining to debt covenants of Rule 144A debt placements if rating agencies continue to conduct independent third-party credit analysis of Rule 144A issues.

Results in Table 2 can also be used to argue that there is a potential for the loss of debt covenant information pertaining to six unrated Rule 144A debt placements (made by two exempt foreign issuers/guarantors, one nonreporting US issuer, and three nonreporting non exempt foreign issuers), if one assumes that, in the absence of Rule 144A, these placements would be registered with the SEC as public placements. However, such an argument should be evaluated in light of the possibility that issuers may not have accessed the US capital markets in the first place. Five of the six unrated Rule 144A placements were a part of global offerings, and the US offering constituted only 27.7 percent of the total global offerings of US $598.30 million.

The fact that most Rule 144A debt is rated suggests that ratings have evolved as a standard practice in the Rule 144A market. Based on an interview of a Japanese investment banker, Goodman (1992) reports that voluntary disclosure is a function of the type of QIB dealing in a Rule 144A security. While a US rating may not be important for an insurer, it may be crucial for a mutual fund or a pension fund. It is evident that Rule 144A debt issuers that do not disclose voluntarily are likely to find their securities less readily marketable which raises the possibility of either an unsuccessful offering or a higher cost of borrowing.

6. Conclusions

Our results indicate that many issuers of Rule 144A debt placements that were not required to disclose information to the SEC voluntarily chose to disclose such information to rating agencies. These ratings of Rule 144A debt placements are almost identical to those currently used in public markets and are indicative of the voluntary disclosures by borrowers. These actions of the rule 144A private debt issuers are consistent with the conclusions of Meek and Gray (1989) that the competitive pressures of raising capital in international capital markets significantly influence the level of disclosure of market participants.

Despite the voluntary disclosures made by Rule 144A debt issuers, there is a potential for information loss to the general public because the information on debt covenants is not readily available. Given that Rule 144A debt issues are only sold among certain types of institutional investors, it is unclear that the loss of information would have a detrimental effect on the public. In fact, Rule 144A imposes an obligation on nonreporting US issuers and nonreporting nonexempt foreign issuers to provide the buyer, upon request, with a brief statement of the nature of the issuer's business and its products and services as well as certain financial information. For example, Murray et al. (1991) note that investors or potential investors may request a nonreporting or nonexempt foreign issuer to provide financial statements prepared in accordance with US GAAP. Rule 144A appears to offer an opportunity to foreign issuers to tap the US investor base for new issues without compromising their standards of disclosure and incurring the high cost of preparing financial information to comply with SEC requirements.

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Notes

1. For an overview, see Saudagaran (1991, 1992).
2. The offering prospectus includes information of the offering, the use of proceeds and the risks involved, details of the issuing firm's capitalization, and a five-year summary of selected financial data. Supplemental information covers management's discussion of company's results of operations and financial condition, and management's perspective of the future.
3. Blue Sky laws are the securities laws of the various states where sales of the securities are likely to take place.

4. Choi and Mueller (1992) note that SEC registration and reporting requirements are essentially the same for domestic as well as foreign issuers. Biddle and Saudagaran (1991) note that major exceptions for foreign issuers relate to acceptance of non-US GAAP financial statements, segment reporting, management compensation disclosures, and timeliness of financial statements.
5. Seidman (1991) notes that this theme is particularly evident in the position of SEC and courts as to the applicability of the registration exemption for private placements.
6. Rule 144A (a) (1) defines the types of entities that are capable of being a QIB. Under this rule, a QIB is an entity that owns or invests, on a discretionary basis, at least $100 million ($10 million in the case of a registered broker–dealer) or more in qualifying securities. For a banking institution to qualify as a QIB, a $25 million minimum net worth test must also be satisfied. Two primary examples of QIBs are insurance companies and pension funds.
7. Securities eligible for resale under Rule 144A include debt and equity securities of a domestic issuer that is either a reporting or a nonreporting company, and debt and equity securities of a foreign issuer that is a reporting company or a nonreporting exempt company that files home country information with the SEC under rule 12g 3–2 (b) or a nonreporting nonexempt company.

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Economic Consequences of the International Harmonization of Accounting Standards: Theory and its Chinese Application

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Key words: Harmonization; Economic consequence; Foreign users versus local affected groups

Abstract: *There has been a lack of explicit theory or framework for the harmonization of accounting standards in the literature. A theoretical model is proposed here. The model evaluates the interests of both foreign users of financial statements and local groups and emphasizes the economic consequences of a suggested harmonization of accounting standards on local affected groups. While the total benefits of the harmonization need to exceed the costs incurred, the benefits and costs should be fairly distributed among affected groups.*

This is a theoretical model which may help to explain and predict the harmonization of accounting standards across countries. The model considers such influencing factors as: the general economic growth in a country or region; the extent to which foreign users find it difficult to use local financial statements; and the extent to which local groups are willing to bear the direct costs and to accept any unfavorable economic consequences of the proposed changes in accounting standard and rule. This model is then used to explain the process of international harmonization of accounting standards in Chinese joint ventures. A brief case study for illustration is provided in the appendix.

Harmonization of Accounting Standards: Progress and Problems

It has been recognized that the harmonization of accounting standards may facilitate the internationalization of capital markets and multinational businesses because it

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can provide comparable financial information for international users (Choi and Levich, 1991; Nobes, 1989). Harmonization is broadly defined here as the process of increasing the compatibility of accounting practices by setting bounds to their degree of variation. Harmonization exists at the level of concepts, principles, regulations, standards, and practices. This study is concerned with regulations, standards, and practices which have the most immediate impact on company financial reports.

Although several international organizations have made progress toward the goal of eliminating diversity, diversity of accounting standards and practices still exists in many parts of the world. Some surveys suggest that financial reports are not more comparable now than 20 years ago (e.g., Tonkin, 1989; KPMG Peat Marwick, 1992). Other empirical tests and surveys come to contrasting or opposite conclusions as to accounting harmonization (Nair and Frank, 1981; Evans and Taylor, 1982; Gray et al., 1984; McKinnon and Jannel, 1984; Doupnik and Taylor, 1985; Nobes, 1987; van der Tas, 1988). Notably, the progress towards harmonization even in the context of the European Community has been incredibly slow (Rutteman, 1989; Archer and McLeay, 1989; Gray and Roberts, 1989). Contrasting legal systems and providers of finance, the influence of taxation the relative strength of the accounting profession, and nationalism may account for the slow progress of accounting harmonization (see Mueller 1967; Zeff, 1972; Gray, 1988; Nobes, 1989).

Another reason may be that there is no explicit policy to encourage harmonization. It is naive to believe that the mere publication of so-called "international accounting standards" will be enough to lead harmonization. Some policy is needed by international organizations to facilitate the acceptance of the standards by individual countries. Such a policy should be based on a theory which can be used to explain motivations, needs and conditions of harmonization. Because no such theory now exists, people do not fully understand relevant factors which affect harmonization. For example, many people believe that accounting differences will lead to harmonization. But it is not necessary. There are two types of accounting differences: one that may affect decisions and one that may not. For example, different accounting methods are allowed in the United Kingdom for the valuation of stock and fixed assets which are not perceived as a problem for users. Only those which cause problems for foreign users may be considered for a change. Another misunderstanding is that needs for harmonization focus narrowly on foreign users, often neglecting the needs of local users and the effects of accounting changes on local affected groups. The harmonization of accounting standards usually means a change of local standards in favor of international standards. The change not only affects foreign users, but local groups as well. The change may seriously affect the interests of particular local groups. Because of the lack of framework for harmonization, a feasible policy which can be used to facilitate harmonization has not been formulated.

Toward a Theory of Harmonization of Accounting Standards

Greater attention needs to be devoted to the social, political, and economic forces that influence the development of the harmonization of accounting standards and

practices. An important implication is that accounting harmonization imposes benefits on some groups to the detriment of others. By studying a particular cases of the process, researchers and policy makers can gain important insights into how economic and political conflicts between interest groups affect the harmonization process.

Accounting researchers have used three conceptual approaches to characterize the role of social, political, economic, and cultural forces on the accounting standard setting process. *(1) Economic consequences and interest approach:* advocates of this approach believe that accounting reports affect the decision-making behavior of preparers and users of such reports as well as impacting the distribution of income wealth between social groups in choosing accounting policies (Zeff, 1978, p. 56; Watts and Zimmerman, 1986: Cooper and Sherer, 1984; Tinker, 1980; Tinker et al., 1982). *(2) Technical approach:* this approach emphasizes that accounting information should faithfully represent economic reality. Advocates of this approach maintain that financial reporting issues ought to be regarded as technical issues to be resolved by an appeal to a "technical framework" (Gaa, 1988, P. 147; Solomons, 1986, p. 92; Financial Accounting Standards Board (FASB), 1980; Dyckman, 1988, p. 23). *(3) Cultural approach:* this approach suggests that the selection of accounting standards may be affected by cultural factors (Gray, 1988).

With regard to the social and technical aspects of accounting (Kaplan and Ruland, 1991), accounting can be viewed as a means of recording business transactions and measuring economic wealth. Thus, accounting in nature is not for the interests of a particular group in society. The ultimate objective of accounting is to reflect economic reality truly and fairly. But unfortunately the process of recording and measuring relies on a set of techniques and standards. The application of these techniques and standards is subject to subjective judgement. In this regard, a particular interest group would support the standards which can best serve its interest even at the expense of that of other group or even at the expense of truthfulness and fairness.

This study considers both social and technical aspects of the development of harmonization. Although there is criticism of the technical approach, particularly because it provides little insight in explaining the role of political and social forces on the development of accounting standards and practices (Pushkin and Pariser, 1991), the technical problems of international standards should be considered. This is because international standards may not be better than local ones developed from its unique environment to provide a true and fair view.

Cultural influences on the harmonization of accounting standards cannot be ignored. For example, cultural influences can occur in two circumstances. First, a society with conservative values may be more likely to accept conservative international accounting standards. In another case, a change in the social attitude of people is essential for a change in accounting values or attitudes. However, greater emphasis is focused on the economic and social aspects of the harmonization of accounting standards. It is more often than not that international standards cannot be introduced into local accounting systems because there are serious economic consequences or the change is in conflict with the interest of local affected groups. For instance, Choi and Levich (1991) note that the tax effect may be one of the perceived political costs of the harmonization of accounting standards.

Key Variables of the Model of Harmonization

A theory to describe the harmonization of accounting should include both external and internal factors and distinguish the effects of external and internal factors. Harmonization is motivated by the fact that accounting differences may negatively affect the globalization of capital markets. But whether harmonization actually occurs depends on the interaction of certain external and internal conditions. Accounting policy makers should consider these conditions in order for harmonization to occur. These conditions are:

(1) To what extent a country or a region moves towards the international capital market.

There is no reason to change if a country is restricted to its own market. The ultimate force which causes change is the economic force, the globalization of capital markets and the international business activity of multinational corporations. Although the globalization of capital markets is growing in the world, the development level is quite different from country to country and from region to region. For example, the single market program causes EC countries economically and financially to unite. North American, Asian, and Pacific countries are moving quickly towards regional economic and trading groups. In other areas, for example Latin America and Africa, it seems that the development of globalization lags behind that of Europe, North America, Asia, and Pacific areas.

Thus, it is suggested that the harmonization of accounting is a function of the general level of economic and globalization development. This is because the more globalization, the more need and pressure to remove obstacles of accounting differences. Therefore, it is often hypothesized that harmonization is more likely to take place in a country or region with a high level of economic development and globalization.

(2) To what extent foreign users have difficulty in using local financial statements.

There are many accounting differences in the world. But not all accounting differences cause problems. Users of financial statements have long been used to multiple accounting choices. With the variety of business transactions, if a company is only allowed to use a single accounting method it is doubtful that true and fair financial reports can be produced. Even in the United Kingdom different companies may use different accounting methods unrestricted by standards, as long as their use will not damage the true and fair view of financial reports. For the same reason, international differences which are not perceived relevant to decision making will not be considered for harmonization. Therefore it is impossible, and not necessary to remove all accounting differences across countries. But significant differences need to be harmonized. How significant an accounting difference is depends on the extent to which users feel it difficult to use financial statements. In other words, the significance depends on whether the diversity among national accounting and disclosure practices and regulations affects the business decisions of major users and preparers of financial statements. If a difference has serious capital market effects, such a problem needs to be solved by the harmonization of accounting standards.

(3) To what extent the needs of foreign users are recognized by local regulators and legislators of accounting.

Is it enough for harmonization to occur when accounting differences seriously affect the decision of foreign users? Not necessarily. Harmonization involves both sides of the issue: foreign users and the local interest groups. So far we have only considered foreign users. But foreign users cannot directly make accounting changes. The introduction of international standards often involves the change of local law and taxation. Thus, the needs of change must be fully recognized by the local authorities. However, accounting issues may not attract immediate attention. Local regulators may not accept the need for change. Many factors affect international investment and business; for example, marketing, taxation, financing, transfer pricing, and the labor market, which may be given priority attention. The point is how important accounting differences are compared with other issues which are relevant to the internationalization of the capital market. In many cases, local authorities may not put accounting issues on their immediate agenda.

(4) To what extent the local groups are willing to bear the cost of changes in accounting standards.

(5) To what extent the local groups are willing to bear the unfavorable economic consequences of the change in accounting standards.

The question of the political economics of harmonization is that, given the fact that its direct benefit is to foreign users, the direct cost of the change is borne by local groups, and the latter may even bear some unfavorable or undesirable economic consequences, why are local groups willing to see the change occur? If the decision is made on a cost–benefit base, and even if the benefit is perceived to exceed cost, three things must be made clear: (1) What is the benefit from the changes to local groups (not only to foreign users)? (2) Who bears the cost of the change of standard? Those who benefit from the change may not necessarily bear the cost. (3) Are there any unfavorable or adverse economic consequences from the change of standard? Who will be affected by the change? The last point is important because if the unfavorably affected party is influential, they may oppose it and make change difficult or impossible to achieve.

The harmonization of accounting standards is expected to generate positive cash flows. But it is difficult to calculate the cash flows. Even if there is a positive cash flow for harmonization, there may even be an uneven or unfair distribution of cash flows and costs among related parties.

In sum, some types of harmonization mean changes in local standards and practices; that is, local regulators and companies give up their standards and practices in favor of international norms or some other country's standards. The changes do incur cost (Choi and Levich, 1991). The change will normally generate economic consequences. The harmonization of accounting will not occur untill local people realize that it is in their own interests that they need the changes.

In general, given the external constraints on the harmonization process, such as the international investment climate, national law, and other legal and political requirements, the conditions discussed above which must be met in order for

harmonization to take place can be expressed in the following simplified model. The first condition which must be met is:

$$B_T > C_T \tag{1}$$

where B_T = total benefit of harmonization, and C_T = total cost of harmonization.

The perceived benefit of harmonization which is frequently mentioned is the simplification of financial analysis of firms globally and the comparability of financial statements of multinational companies. While the benefit of harmonization is rather simple and straightforward, the cost incurred is not. The total cost in this model should include the direct cost and unfavorable economic consequences from the proposed change of accounting standards. An example of direct cost is the administrative expenses for the change, such as the cost of publication of the proposal, the discussion of the new standards, and the cost of changing the company accounting system from one to another. Adverse and unfavorable economic consequences can occur when there is a tax effect or political costs from the introduction of new accounting standards.

The total benefit and cost can be divided into two parts: the one for local parties the one for foreign parties. An analysis of the effect of harmonization on both local and foreign parties in terms of benefit and cost is essential for the model. Thus the second condition is:

$$B_L > DC_L + UEC_L \tag{2}$$

where B_L = benefit of harmonization for local parties, DC_L = direct costs of harmonization for local parties, and UEC_L = unfavorable economic consequences for local parties.

The third condition is:

$$B_F > DC_F + UEC_F \tag{3}$$

where B_F = benefit of harmonization for foreign parties, DC_F = direct costs of harmonization for foreign parties, and UEC_F = unfavorable economic consequences for foreign parties.

If both conditions 2 and 3 are met, then condition 1 will be met simultaneously. This is because

$$B_T = B_L + B_F$$

$$C_T = DC_L + UEC_L + DC_F + UEC_F$$

Then

$$B_L > DC_L + UEC_L$$

and

$$B_F > DC_F + UEC_F$$

will lead to

$$(B_L + B_F) > (DC_L + UEC_L + DC_F + UEC_F) \tag{4}$$

That is,

$$B_T > C_T \tag{1}$$

But when condition 1 is met, it is not necessary that both conditions 2 and 3 would be met. Let NB be the net benefit of harmonization:

$$NB_T = B_T - C_T \tag{5}$$
$$NB_L = B_L - (DC_L + UEC_L) \tag{6}$$
$$NB_F = B_F - (DC_F + UEC_F) \tag{7}$$
$$NB_T = NB_L + NB_F \tag{8}$$

It is obvious that NB_T could be positive, even if one of the two value NB_L and NB_F is negative, as long as the absolute value of the positive one is greater than that of the negative one.

The specific benefits and costs and the effects on local and foreign parties will vary from country to country and from case to case. Change in one standard will impose different costs and benefits on different parties than will change of another.

While harmonization of accounting standards is motivated for the simpler use of financial statements of foreign users, it does not mean local parties cannot benefit from harmonization. The key issue is not how much local parties can benefit from it, rather than it is a cost–benefit matter; that is, is the benefit greater than the cost and unfavorable economic consequences for the local groups? If it is not, the author's model predicts that harmonization shall not take place.

The main concern of this paper is the matter of harmonization which requires a change of local standards. But harmonization could happen in the following two situations where local standards do not change:

(1) Harmonization can be achieved when multinational companies (MNCs) are required to adopt international standards in securities offerings while local companies could still use local standards. But that fact only strengthens the main point that harmonization has economic consequences, and the local authorities find it difficult to adopt. As a compromise only MNCs, and not local companies are required to use international standards. If that happens, the theoretical model may be able to explain the situation.

(2) If harmonization means there is no change in local standards, but only a change in foreign standards, there is no cost and economic consequence for local parties and local capital providers in a country will benefit from the harmonization in their capital allocation process. Since most problems in harmonization come from the change in local standards, this paper focuses on the situation where a change in local standards is necessary for harmonization to occur.

The rest of the paper illustrates a model using Chinese joint venture accounting. Chinese accounting is chosen for the following reasons: (1) there are significant differences between Chinese accounting and Western accounting; (2) there are perceived difficulties for foreign users of Chinese financial statements; and (3) harmonization of accounting regulations and practices has taken place. The discussion of the case focuses on the perceived cost and economic consequences of accounting changes in joint venture accounting regulations.

Application of the Theoretical Model: Chinese Joint Venture Accounting

Evidence of Harmonization

There is evidence that the harmonization of accounting in Chinese joint ventures has taken place at both the regulation and practice levels. The main changes in accounting regulation and requirements are as follows.

The objectives of joint venture accounting are modified from macroeconomic control to present a fair view of enterprise business.

For the valuation of stock, net realizable value is allowed to be disclosed in annual reports, although the concept of the lower of cost and market value is not permitted to be used for the measurement and valuation of official earnings and assets and liabilities.

For the valuation of fixed assets, accelerated depreciation is allowed in special cases.

The presentation and format of the balance sheet are different from local practice.

In addition to the traditional financial reports, the balance sheet and the income statement, a statement of changes in financial positions is required (Chinese government 1985, 1992).

The 1985 joint venture accounting regulations were revised in 1992, which allow more Western accounting standards to be used. Meanwhile these regulations have had a major influence on Chinese local practices. In July 1993, the current local accounting regulations and systems were replaced by a new one which was designed to serve a changing economic system and to be consistent with international norms.

These changes are fundamental and conceptual. The significant impact on profit of the new regulations is evident. It is clear that many international or Western accounting standards have been introduced into Chinese joint venture accounting regulations while the regulations retain Chinese characteristics. There is a strong evidence of harmonization of accounting at the regulation and standards levels.

With the different accounting regulations, not surprisingly, Chinese joint venture accounting practices are different from local firms, and in fact much closer to international or Western practices. A recent survey (Tang, 1992) provides evidence which shows that, in practice, Chinese joint venture accounting is a mixture of Chinese and Western practices. Table 1 shows the difference between local and joint venture accounting. The comparison is based on joint venture accounting practices and local firm accounting regulations.

The differences are obvious. For example, while no local firm is allowed to revalue stock and disclose net resizable value of stock, 88.5 percent of Chinese joint ventures revalue stock and 25.6 percent disclose the net realizable value of stock in their annual financial statement (1991). Accelerated depreciation of fixed assets and provisions for losses on stocks have never been used in local accounting practices. In this sample, 14 percent of joint venture are using accelerated methods, and 24.4 percent are making provisions for losses on stocks (Table 1). Therefore, it is safe to say that harmonization is taking place at the practice level in China.

Table 1. Accounting methods used in Chinese joint ventures and local firms

Accounting method used	Joint venture ($n = 86$)	Local firm (regulation)
1. Accelerated depreciation Method	14%	Not allowed
2. Useful house life estimated:		
Minimum	10 years	40 years
Maximum	50 years	No information
3. Useful machine life		
Minimum	5 years	14 years
Maximum	30 years	35 years
4. Electronics equipment life:		
Minimum	3 years	No information
Maximum	15 years	No Information
5. Revaluation of stock	88.5%	Not allowed unless ownership is changed
6. Net realizable price disclosed	25.6%	Never
7. Provision for losses of stocks	24.4%	Not allowed
8. Not capitalize R & D	50.0%	Must till project fails

Conditions Which Have Been Met for Harmonization

That harmonization took place in Chinese joint venture did not happen merely by chance. In fact, all the conditions mentioned in the model are met in the case of Chinese joint ventures.

(1) General level of economic development and globalization of the Chinese economy.

During the last decade, the world witnessed great changes in the Chinese economy from isolation to globalization. The economic development and increasing globalization are crucial for the change in accounting regulations and practices. Without these changes, any subsequent change in accounting is impossible. It is the change in economic structure and foreign investment and trade that highlight the accounting differences between Chinese local accounting and international accounting practices.

(2) Difficulty of foreign investors.

The first pressure for change in accounting came from foreign investors. They were concerned that Chinese accounting standards were so different from those they were familiar with that these standards may not correctly account for their investment or help them to assess the performance of foreign invested enterprises in China. The differences may also affect the profitability of enterprises in China, because accounting income should, in the case of the Chinese firms, be the basis of taxation.

(3) Changes in the attitude of local regulators.

Despite complaints concerning local accounting standards by many foreign investors, Chinese accounting regulators did not recognize the difficulties of foreign users nor realize the need for change until 1985, 7 years after the open door policy was announced and the joint venture was created in China.

But foreign investment eventually made Chinese regulators understand that changes are necessary. The attitude of the Chinese people towards Western accounting practices has gradually changed. Some western principles and concepts, e.g. conservatism, the lower of cost and value, and accelerated depreciation methods, were no longer criticized. People in China realized that if foreign investment is essential and crucial for the modernization of the Chinese economy, accounting differences should not be an obstacle. A comparable financial statement is important for foreign investors to assess the performance of joint ventures. Taxation should be on a fair base of profit. Meanwhile local accounting regulations were criticized as they led to an unrealistic and overstated current profit. There were growing doubts among the Chinese academics and regulators that the Chinese accounting principles and regulations, which were shaped in the 1950s under the strong influence of the Russian model, were able to provide a true and fair view of the financial position and results of an enterprise. A fundamental reform of the accounting system had been suggested to accommodate economic reform and a more market-oriented economic system. All these changes in attitude are important to create a climate suitable for fundamental changes in accounting regulations and practices.

(4) Cost of the change.

To provide a new accounting policy, a new branch – the Office of Accounting for Firms with Foreign Investment – was established in the Department of Administration of Accounting Affairs under the leadership of the Ministry of Finance of the Central Government. The Department comprises the highest level of regulators of accounting in China. The office deals exclusively with accounting issue for joint ventures.

In 1985, a new regulation was published by the Ministry of Finance. Before the formal regulation was issued, a draft regulation had been circulated to some academics for discussion. Joint ventures were allowed to use some new accounting methods according to the draft regulation. A joint venture can use some different standards, e.g. the accelerated depreciation method for fixed assets, which would allow it to charge more expenses in the current accounting period. They are permitted to disclose losses on stocks. Even provisions for possible losses on stocks are allowed although only from profit after tax. It is a partial acceptance of the principle of the lower of cost and net realizable value although this principle had been criticized and has never been formally and officially accepted in China.

The establishment of a special organization for joint venture accounting, the discussion of the draft, and the trial run of the draft regulation – all actions to change the accounting regulations – cause increased costs. Since the Chinese government thought that the change was necessary, they were willing to bear all the costs incurred.

(5) Economic consequences of the changes in accounting.

The changes are significant and fundamental. It is difficult to find examples in other countries with such a dramatic change. Perhaps Russia and Eastern Europe are undergoing a similar change. The result of the change is that current profit is calculated to be lower than that if local regulation were applied. Assets are also valued lower as well.

Table 2. Costs, benefits and economic consequences of harmonization of accounting regulation and practices in Chinese joint ventures (Jvs)

	Direct costs and economic consequences from the changes of accounting regulations	Direct benefits
For local regulator	1. Drafting and discussion of documents 2. Trial running of draft regulations	
For local Jv partner	1. Change of accounting systems according to new regulations 2. More Difficult to analyze financial data generated by new accounting methods	1. Less tax obligation 2. Better profitability
For local bank and other capital providers	1. More difficult to analyze financial data generated by new accounting methods 2. Difficult to compare local firms with Jvs	JV data are more consistent with internation norm
For foreign investors (MNCs)		1. Easier to do feasibility study of investment 2. Easier to assess performance of Jvs and evaluate value of Jvs 3. Easier to analyze financial data 4. Have less tax obligation 5. Better profitability
For Chinese government	Reduced tax income	More foreign investment, better for its macroeconomic policy

The most obvious economic consequences of the new accounting regulation is that, because income for tax purposes is based on the accounting income of reported financial statements, the lower accounting earnings lead to a lower tax obligation of an enterprise and the Chinese government collects much less tax under the new accounting regulation. The unfavorable economic consequences were fully recognized by the Chinese government and sufficiently discussed and debated before the enforcement of the new regulation. Again, they are willing to sacrifice the tax income in return for foreign investment.

(6) Benefit of the change in accounting.

The first benefit of the change is that the reported earnings of joint ventures are more comparable to international norms. Therefore, foreign users of joint venture financial reports are able to analyze the financial information on a comparable base. Another advantage the foreign investor enjoys is that lower reported income leads to a reduced local income tax obligation. For local capital providers, it is at first difficult for them to analyze financial statements generated by new accounting methods. It is also difficult to compare local firms with joint venture, for they use different accounting standards. But local capital providers may also benefit from the change because joint venture financial data are more consistent with international norms.

While the foreign parties receive direct and immediate benefit, what the local parties acquire are rather a long-term benefit. If the purpose of changing accounting regulations is to attract more foreign investment, this goal has been achieved. Since the publication of the new regulation, foreign investment has been increasing continuously. China benefits from the influx of foreign investment with advanced technology and management skills. Table 2 summarizes the main costs, benefits, and economic consequences of the change in accounting regulations.

To isolate accounting from effects on foreign investment is difficult because many other things have coincidentally happened since 1985 in China. Neither does this study attempt to calculate the total costs and benefits of the change and harmonization of accounting in the case of Chinese joint ventures. The Chinese government did not calculate the actual cost and benefits from the change before the new accounting regulation was approved. It is technically impossible to calculate accurately mathematically the total costs and benefits. It is more often than not that costs and benefits are valued on a subjective base as in the case of Chinese joint ventures.

The local groups, however, clearly bear all the direct costs and adverse economic consequences while foreign investors get most of the direct benefits. Some of the gains foreigners acquire are losses of local groups (e.g. tax). In the long run, if more foreign joint ventures are created, the total tax income of the government will increase although tax from individual firms is reduced. China can benefit from the modernization of local technology, management skills, and other outcomes of foreign investment if the change in accounting can help encourage joint ventures. That is the main motivation of local groups for the harmonization of accounting standards.

Summary and Conclusions

In this study, a framework to analyze the impact of economic factors on the development of the harmonization of accounting standards and reporting practices has been proposed. The model identifies the main influential factors involved in international harmonization: the general level of globalization, the difficulties for foreign users caused by accounting differences, and the cost and economic consequences of accounting changes for interested groups, particularly for local groups. The main conclusion of the study is that the harmonization of accounting standards is actually a political process. The harmonization of accounting standards is in fact the harmonization of interests of affected parties. Social, economic, and cultural implications of accounting changes are perceived to be more important than the technical aspects of financial reporting. In particular, the interest of local groups versus foreign users play a key role in the process of accounting harmonization. The implication of this study is that harmonization will not take place if it is only for the benefit of foreign users. Only when local groups believe that it is for their own benefit it is then possible for a plan of harmonization of accounting standards to be achieved. In this sense, the theory may also be useful to explain why international accounting standards are introduced in some countries but not in others. It is fully recognized that the ideas advanced are exploratory and subject to more empirical testing and verification.

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Appendix: A Case Study

To illustrate the economic consequences of harmonization, a case study of the effects of accounting changes on the reported income and tax obligation is provided. The case company is a manufacturing Chinese–Hong Kong joint venture, Shanghai United Limited, created in 1988. Following are the financial data extracted from its 1990 financial reports (monetary unit is yuan, Chinese currency RMB): Capital 3 600 000.00, 50 percent from the Chinese participant and 50 percent from the Hong Kong participant; current year profit 308 807.18 (profit before extraordinary items 302 557.18); retained earnings –27 054.26.

Main accounting policies used: straight-line depreciation method of fixed assets; estimated useful life of fixed assets: 20 years for building and premises; 10 years for machines; 5 years for electronic equipment, means of transportation; residual value of fixed assets: 10 percent of cost; organization cost: amortized in 5 years; first-in-first-out (FIFO) for the valuation of stocks; the company does not disclose how to record interest; the company does not have R&D expenses.

The joint venture is using accounting methods in accordance with the Chinese joint venture regulations to calculate profit. The main accounting method used in this joint venture, which is different from that of local firms, is accounting for fixed assets. The depreciation policy of fixed assets has the most significant impact on the current profit. The company is allowed to use an annual depreciation rate of 4.9 percent, 9 percent, 18 percent of the historical cost for the main categories of fixed assets, i.e. buildings and premises, machines and equipment, and means of transportation, respectively. The rates are decided by the estimated useful life and residual value of fixed assets. If the joint venture was a local firm without foreign investment, however, the annual depreciation rate should have been no more than 2.5 percent for buildings, 5 percent for machines, and 10 percent for means of transportation. The depreciation and profit of the joint venture from 1988 to 1990 are readjusted by the author using local rules. Following (in table format) are readjustments of depreciation charges using joint venture (JV) and local depreciation rates for the years 1988, 1989, and 1990, and their effect on reported profits. Only profits or losses before extraordinary items are readjusted here, because extraordinary items are not affected by different accounting rules in this case.

In this case, depreciation of fixed assets is a material item in the reconciliation of earnings. It alone could reduce the reported losses in 1988 and 1989 by 56.98 percent and 62.65 percent respectively, and increase profit in 1990 by 49.54 percent. The company therefore would turn from losing money to making profit in 1990. The normal tax rate is 30 percent plus 3 percent local income tax; the effect of the different income on taxation is (not taking into account extraordinary items): 317 096.82 @ 33 percent = 104 641.95. This would be the tax obligation of the joint venture in 1990, if there is no tax concessions for the company.

Readjustment of depreciation charges using different depreciation rates (for the years ended December 31, 1988, 1989, and 1990)

	Historic cost	JV's rate (%)	JV's depreciation	Local rate(%)	Local depreciation
1988					
Premises and buildings	1 308 034.93	4.5	58 861.56	2.5	25 950.87
Machines and equipment	1 693 125.67	9	152 381.31	5	84 656.28
Means of transportatiom	140 371.08	18	25 266.84	10	14 037.11
New machinery	403 445.76 (no depreciation first year)				
	3 544 977.44		236 509.71		124 644.26
Difference: 236 509.71 – 124 644.26 = 111 865.45					
1989					
Premises and buildings	1 308 034.93	4.5	58 861.56	2.5	32 700.87
Machines and equipment	2 096 571.43	9	188 691.48	5	104 828.57
Means of transportation	140 371.08	18	25 266.84	10	14 037.11
New house	30 000.00				
New machinery	119 021.86				
	3 693 999.30		272 819.88		151 566.55
1990					
Premises and buildings	1 338 034.93	4.5	60 211.57	2.5	33 450.87
Machines and equipment	2 215 593.29	9	199 403.40	5	110 779.66
Means of transportation	140 371.08	18	25 266.84	10	14 037.11
New machinery	27 734.92				
	3 721 734.22		284 881.81		158 267.64

Note: Not all of these different charges affect the current stock profit and loss account. Part of them affect next year's earnings through work in process and finished goods. The detailed computation is omitted.

Readjustment of profit (1988, 1989 and 1990)

	Under JV's rule	Under local rule	Difference
1988	–179 366.11	–77 167.42	102 198.69
1989	–155 749.33	–58 167.96	97 581.37
1990	302 557.18	452 432.20	149 875.02
total profit	–32 558.26	317 096.82	349 655.08

Loss is reduced or profit increased by: 56.98 percent (1988); 62.65 percent (1989); and 49.54 percent (1990).

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Accounting Education and Practice: The Singapore Experience

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Key words: Accounting education; Accounting profession; Accounting practices in Singapore; Accounting and economic development

Abstract: *The rapid economic growth in Singapore over the last three decades has created a significant demand for accounting education and a need for a responsive professional accounting body to serve business and industry. This article provides a historical background of the development of accounting education and profession in Singapore. More importantly, it describes the relationship between accounting education and practice to provide a better appreciation of the importance role accounting plays in the economic growth and success of a nation.*

1. Introduction

There is a close relationship between accounting education and practice in Singapore. This emerged over the past few decades as a consequence of the social and historical developments in that country. As a member of the British Commonwealth, Singapore inherited much of the British educational system, and accounting education is no exception.

This paper examines the two aspects of accounting in Singapore: (1) accounting education, and (2) the development of the accounting profession and the general framework relating to the practice of accounting and standard setting. The focus of this paper will be largely historical in perspective to provide some insights into the field of accounting in present-day Singapore.

1.1 The Interlink Between Accounting Education and Practice

Sterling (1973) describes the relationship between accounting education and practice as one of harmony because the aim of accounting educators is to prepare students for practice. Practice complements education in that it provides educators with

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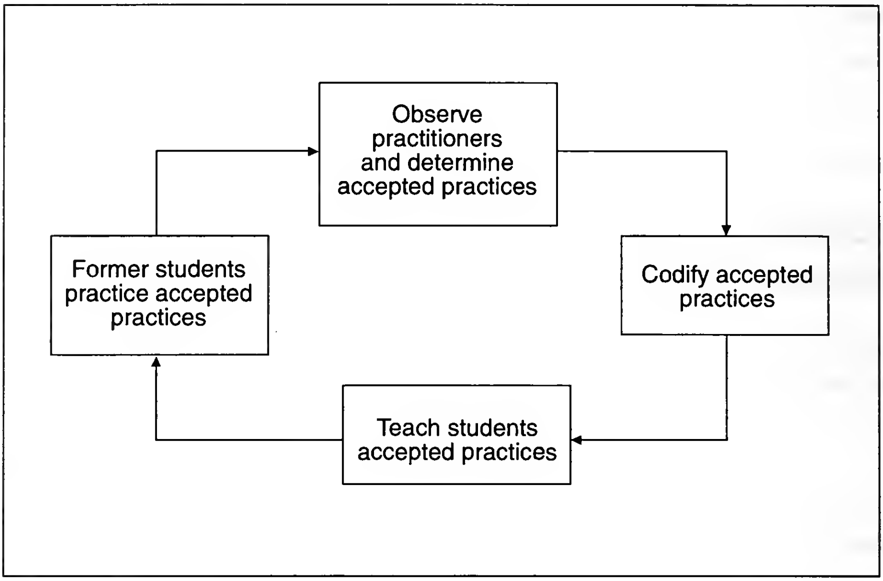

Fig.1. The relationship between accounting education and practice.

information of acceptable practices and practitioners practice what educators taught them. Fig. 1 depicts the relationship between accounting education and practice.

The process illustrated in Fig. 1 does allow for change as practitioners often (are required by circumstances to) add to their store of accepted practices, and consequently, educators observe, codify and teach these new accepted practices. The model depicts the close interlink that exists between accounting education and practice in Singapore.

This paper is organized as follows. Section 2 traces the development of accounting education in Singapore, while section 3 examines the historical development of the accounting profession. Section 4 provides a description of the corporate reporting framework and the process of standard setting in Singapore. Section 5 concludes the paper.

2. Development of Accounting Education in Singapore

2.1 Antecedent Developments in Accounting Education

Full-time accounting education only began in Singapore in 1956. Prior to that date, the only accounting education available was through examinations conducted by professional accounting bodies overseas, such as the Association of Certified Accountants of the United Kingdom (ACCA), the Institute of Cost and Management Accountants of the United Kingdom (ICMA), and the Australian Society of Accountants. In 1956, the first educational program in accountancy in Singapore began with the launching of the Bachelor of Commerce program at the Nanyang

University (Fong and Foo, 1992). In the following year, the Department of Commerce at the Singapore Polytechnic was established, offering, among other courses, full-time courses leading to the College Diploma in Accounting (Report of the Department of Commerce, 1957–1959). Recognition of the Professional Diploma of Accountancy offered by the Singapore Polytechnic by the Singapore Society of Accountancy followed in 1963.

With the establishment of self-government in Singapore and the emergence of the People's Action Party as the ruling party, a new direction for accounting education followed. In line with the objective of training a pool of qualified professionals (including accountants), the Department of Commerce at the Singapore Polytechnic was replaced by the Department of Accountancy (Singapore Polytechnic, Annual Reports 1958, 1959). The aim of the new Department of Accountancy was to conduct both full-time as well as part-time courses leading to the Professional Diploma in Accounting. To ensure high standards and to achieve international recognition of the diploma, an external examiner of international standing was appointed to monitor the standard of examinations offered in the Accountancy Diploma. The system of appointing external examiners is still in place at the present time in the School of Accountancy and Business at the Nanyang Technological University.

2.2 A Degree Program in Accountancy

During the 1965–1966 academic year, the Department of Accountancy at the Singapore Polytechnic was renamed the School of Accountancy to signify its transformation to a university college. The accountancy program was upgraded from a diploma to a university degree. As a result of negotiations between the Singapore Polytechnic and the University of Singapore, the latter agreed to award its internal degree of accountancy to students of the Singapore Polytechnic. Full-time and part-time courses leading to the degree of Bachelor of Accountancy of the University of Singapore were introduced, with a program of study where full-time students sat for three annual examinations, while part-time students sat for six annual examinations.

The amalgamation in 1969 of the School of Accountancy with the Department of Business Administration of the University of Singapore represented yet another milestone in the historical development of accounting education in Singapore (*Sunday Times*, December 17, 1968). With the merger, the School of Accountancy was also relocated at the University of Singapore. During this time, the course structure underwent further changes with increased emphasis on management studies.

2.3 The Bachelor of Commerce at Nanyang University

At Nanyang University, the Bachelor of Commerce degree with a major in accountancy commenced in 1956 with student enrolment largely coming from the Chinese schools in Singapore and the Federation of Malaya. The course was structured after the American credit system with the length of the program stretching over 4 years. The accountancy program at Nanyang University encountered some initial difficulty in gaining recognition as a tertiary institution. However, this was subsequently resolved with the passage of the Nanyang Ordinance based upon the recommendations

of the Prescott Committee (Fong and Foo, 1992). A review committee was also subsequently established with the mandate of reorganizing the accountancy program (Report of the Nanyang University Commission, 1959). The reorganization was put into effect in the 1966–67 academic year, with the degree conferred by Nanyang University being restructured to include a pass and an honors degree. Students performing exceptionally well in the pass degree were permitted to proceed to the honours degree. Nanyang University's Bachelor of Commerce degree was eventually recognized in 1971 by the Singapore Society of Accountants (Singapore Society of Accountants, Annual Report 1971–72).

2.4 The Joint Campus and the National University of Singapore

Joint Courses conducted by Nanyang university and the University of Singapore were introduced in 1978. The two Schools of Accountancy merged in 1980 to form the School of Accountancy at the National University of Singapore. Following the formation of the National University of Singapore, and the end of Nanyang University and the University of Singapore, the School of Accountancy underwent further restructuring to become the Department of Accountancy within the Faculty of Accountancy and Business Administration. In July 1983, the Department of Accountancy was replaced by the School of Acountancy, still within the Faculty of Accountancy and Business Administration.

2.5 The School of Accountancy Today

Following an almost unanimous decision by the academic faculty of the School of Accountancy, the school was physically relocated at the new Nanyang Technological Institute (Located at the old Nanyang University site but in a newly established institute) and became an integral part of the latter in July 1987. However, the accountancy degrees were still formally awarded by the National University of Singapore.

In July 1988, the School of Accountancy at Nanyang Technological Institute was renamed the School of Accountancy and Commerce, in conjunction with the establishment of a new commerce degree and the acceptance of the first class of commerce students. Further refinement and restructuring of the commerce program resulted in the reconstituted School of Accountancy and Business in July 1990. The School offers an accountancy degree as well as a Bachelor of Business degree, the latter offering several specializations, such as actuarial science, banking, financial analysis, human resource management, industrial management, insurance and marketing.

On July 1, 1991, the Nanyang Technological Institute became a comprehensive university and is now named the Nanyang Technological University. The Nanyang Technological University awards its own degrees to students successfully completing the requirements of the degrees of Bachelor of Accountancy and Bachelor of Accountancy and Bachelor of Business.

With the maturing of the School of Accountancy and Business, postgraduate programs in accountancy and business were introduced. The Master of Business

Administration (MBA) course with specialization in accountancy was launched in July 1991. The first group of full-time and part-time students began classes in the 1991–92 academic year. Currently, the school also offers MBA courses with specialization in banking and finance, hospitality management, management of information technology, and management of technology, as well as post-graduate degrees by research, i.e. Master of Accountancy (M.Acc.), Master of Business (M.Bus.), and Ph.D. programs in Accountancy and Business, respectively.

2.6 The Educational Curriculum

The degree of Bachelor of Accountancy is a 3-year program with Meritorious Honors (1st class, 2nd class upper or lower) being awarded to students with consistently excellent academic results throughout the program.

The degree is recognized by the Institute of Certified Public Accountants of Singapore (ICPAS), as a satisfactory professional qualification without further examination subject only to approved practical experience. New graduates without practical experience are eligible for admission as provisional members of the Institute. B.Acc. graduates are also given various degrees of exemption from examinations of foreign professional accountancy bodies.

As B.Acc. graduates are recognized as professional accountants by the ICPAS, the curriculum is designed to ensure that graduates at all times satisfy the course requirements for admission to membership of the ICPAS. B.Acc. graduates are, however, not necessarily limited to a specific path as an accountant. The B.Acc. degree provides graduates with the qualifications for entry into a wide variety of careers in both the private and the public sectors.

The B.Acc. curriculum equips graduates with a knowledge base in accounting and auditing, as well as computer-based data processing, systems analysis and design, financial management and planning, organizational behavior, etc. The existing curriculum for the 3-year accountancy program is as follows:

First year

Financial Accounting I
Cost and Management Accounting I
Business Statistics
Business Statistics
Business Communication
Organizational Behavior
Principles of Economics
Principles of Law
Management Science
English Proficiency (if not exempted)

Second year

Financial Accounting II
Cost and Management Accounting II
Information Systems I

Business Finance
Auditing I
Monetary Economics and Public Finance
Business Law
Company Law
(Note: All students are required to undergo a 10-week business attachment at the end of the second year.)

Final year

Compulsory subjects
Financial Accounting III
Management Planning and Control
Information Systems II
Auditing II
Income Tax Law and Practice
Accounting Theory
Final Year Project

Electives

Students must choose one of the electives offered for the year. The electives include the following:

Company Administration
International Accounting
International Finance and Investment
International Banking Operations
Marketing Management
Human Resource Management
Operations Management

2.7 Liaison with Industry and Commerce

The continuing relevance of the accountancy curriculum and the program of training in industry and commerce has always been a matter of priority with the school. Efforts to achieve a close liaison include the following.

Business Attachment Program

Practical Experience is an essential component of the education and training of a professional accountant. To satisfy this requirement, all accountancy students are required to undergo a structured 10-week industrial attachment program at the end of their second year of studies. Under this scheme, students are attached to public accounting firms or other business organizations. The main purpose of this period of professional training is to instill in students a sense of professionalism and the right work attitude so that they become effective and productive in their respective organizations after graduation. The program also provides an opportunity for students to link theory and its application in the business environment.

Relationship with the ICPAS

Since the inception of the Institute, initially as the Singapore Society of Accountants (SSA) under the Singapore Society of Accountants Ordinance 1963 and later as the Institute of Certified Public Accountants of Singapore (ICPAS) in 1987, there has been a close relationship between the School and the Institute. This close liaison is evidenced by the fact that the Institute (or Society prior to 1987) was consulted through each stage of the transition of the School from the Singapore Polytechnic to the National University of Singapore, and subsequently to the Nanyang Technological Institute in 1987 and the present Nanyang Technological University. A representative of the School is appointed by the Minister of Finance as a statutory member of the Council of the Institute. For the Year 1990–91, 16 of the 39 committees of the Institute had a representation of at least one member from the School of Accountancy and Business (ICPAS, 27th Annual Report and Accounts 1990–91).

Liaison with Industry

Through its various committees, such as the Business Link Committee and the Graduate Placement and Career Talk Committee, the School ensures continuing close rapport with the business community and the professional bodies to ensure the continuing relevance of the School's programs. The functions of these committees include the organization of investment lecture series, workshops and seminars, visitor liaison, as well as industrial visits for staff and students.

2.8 Summary

This section has provided a historical perspective of the development of the school of Accountancy and Business. The school at the present time represents one of the largest of its kind in Asia, with a current academic staff strength of over 160, and a student enrolment of 2109 in the Bachelor of Accountancy program at the beginning of the 1991–92 academic year. The curriculum ensures that students are equipped for industry upon graduation through courses that are designed to enable graduates to be admitted to membership of the ICPAS. The program prepared students for industry through business attachment programs, industrial visits, and other activities such as career and recruitment talks by prospective employers. Surveys of graduates also reveal that the content of the accountancy programs are largely relevant to their employment upon graduation.

The Development of the Accounting Profession in Singapore

3.1 ICPAS

ICPAS is the only professional accounting body in Singapore. Until 1987, it was known as the Singapore Society of Accountants (SSA). The Society was established on 13 December 1963 with the enactment of the Singapore Society of Accountants Ordinance 1963 for the purpose of registering and regulating the practice of the profession of accountancy in Singapore for the training of practicing accountants, as

well as to lay down rules and guidelines for the qualifications and conduct of professional accountants, and establishing guidelines for the performance of the audit function.

The Institute is currently also the only professional accounting body that has been entrusted with the role of ensuring a minimum standard of financial reporting among companies operating in Singapore. The Institute admits to its membership B.Acc. graduates from the School of Accountancy and Business, as well as graduates from various overseas professional accounting bodies. A list of these professional bodies is found in the First Schedule to the ICPAS Rules 1989 and is summarized in Appendix 1 of this paper.

Practicing members of the Society (prior to the 1987 Accountants Act) were required to have either 3 years of post-qualifying practical accounting experience or 5 years of practical accounting experience in a public accounting firm. For non-practicing members, similar criteria apply except that the relevant experience may be attained either through employment with a public accounting firm or in a commercial environment.

With the enactment of the Accountants Act 1987, the Singapore Society of Accountants was replaced by two separate organizations: the Public Accountants Board and the ICPAS. The Public Accountants Board includes the Accountant-General, the Auditor-General, a member from the Nanyang Technological University or the National University of Singapore to be appointed by the Minister of Finance, and seven other members to be appointed by the Minister, of whom three are to be appointed by the Minister on the nomination of the Council of the ICPAS. On the other hand, the affairs of the ICPAS are administered by the practicing members, an equal number of non-practicing members to be elected by non-practicing members, and three other members to be appointed by the Minister of Finance.

The functions of the two organizations are complementary in nature with the Public Accountants Board entrusted with the primary role of strengthening control over public accountants practicing in Singapore. The Board has responsibility over the registration and disciplinary matters of all practicing public accountants in Singapore. The Board therefore functions as a "watchdog" body over the public accounting profession. The entry qualifications of members into the public accounting profession are prescribed in the Act. *Inter alia*, the Board is responsible for registering (licensing) public accountants, maintaining a register of public accountants, and determining the qualifications of persons for registration as public accountants, ensuring adherence to the ethical codes of conduct and conducting disciplinary actions in respect of erring members. Prior to the 1987 legislation, these functions were performed by the SSA.

On the other hand, the ICPAS continues to perform its role as the only accounting standard-setting body in Singapore. This is accomplished through a committee appointed by the Council of the Institute. Its primary role, with the enactment of the Accountants Act 1987 is to serve as an advisory body to enhance the standard of reporting in Singapore and to provide guidelines for the conduct of the audit function.

To qualify as full-fledged members of the ICPAS, applicants should possess between 2 and 4 years of relevant practical training depending on whether the training is structured or unstructured. Structural practical training refers to experience gained

under an approved principal in a public accountant's office or in an organization in the public sector or industry and commerce recognized by the council of the ICPAS.

In 1964, membership of the professional accounting body was 344. It gradually grew over the years to reach 7444 in 1992. Currently, the ICPAS is the largest professional body in Singapore. The majority of its members are employed in non-public accounting.

With the enactment of the Accountants Act 1987, all members of the accounting profession are now known as (practicing and non-practicing) certified public accountants (CPA). Previously, those in public accounting were known as public accountants of Singapore (PAS) and all other members were classified as registered accountants of Singapore (RAS). An additional new requirement for admission to membership of the Institute is the completion of a pre-registration course covering topics relating to ethics and professional practice. Under the Accountants Act 1987, to qualify as an auditor or practicing CPA an applicant must first be a member of the ICPAS. Therefore, a practicing CPA is now subject to the Rules of the ICPAS as well as the Public Accountants Board.

The First Schedule of the ICPAS Rules 1989 provides for the acceptance of accountancy graduates of the Nanyang Technological University, in addition to persons who have completed the professional examinations of various accountancy bodies overseas. With the launching of the Master of Business Administration (Accounting) in July 1, 1991, graduates possessing the MBA (Accountancy) are also eligible for admission to the Institute.

3.2 Continuing Education of Practicing Accountants

In addition to its role as the accounting standard-setting body in Singapore, the ICPAS also places significant emphasis on the training and professional development of practicing accountants. The Professional Development Program conducted annually by the Institute provides for the continuing professional education of practicing accountants. In addition, the Institute also conducts courses for students aspiring to become qualified accountants. In 1990, a new course to prepare students for the Certified Diploma in Accounting and Finance was launched. This program aims to provide non-accountants with training in accounting and finance (ICPAS, 27th Annual Report and Accounts, 1990–91).

Foreign investments play a vital role in Singapore's economic development. *Inter alia*, the presence of an active and responsive professional body facilitates this process by providing essential services to foreign companies to account and safeguard the integrity of their investments.

The Regulatory Framework for Corporate Reporting

An outline of the regulatory framework for financial reporting in Singapore is illustrated in Fig. 2. The system comprises regulatory bodies in both the public and private sectors. The regulatory bodies in the public sector consist of government agents who have legal power to enforce compliance with the statutes. The private

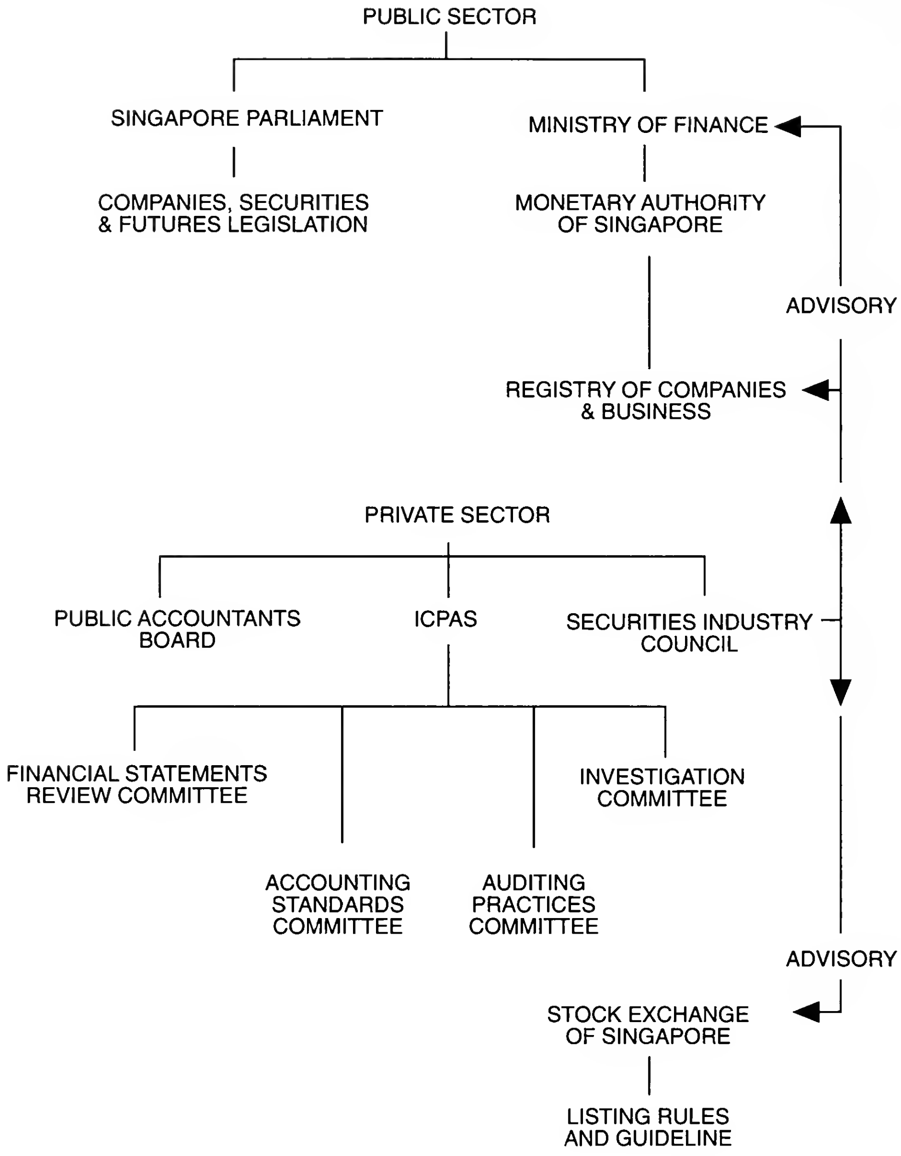

Fig. 2. The regulatory framework. (Source: Foo and Ng, 1993)

bodies, however, are mainly professional bodies and advisory committees established to maintain a certain standard of financial reporting by their members. These private bodies do not possess any legal power to enforce compliance with their standards and rules, but they usually act as advisors to the public regulators in matters such as violation of statutory requirements and incorporation of accounting standards into mandatory requirements.

4.1 Public Sector Regulations

All legislation relating to financial reporting must be passed by Parliament before it becomes law. Based upon recommendations from the Minister of Finance, bills on financial reporting are enacted as statutes upon which they become legally enforceable. The administration of these statutes is the duty of different government agents. These government agents include ministerial organizations, i.e. departments within a ministry and non-ministerial organizations, i.e. statutory boards or corporations established by a specific Act of Parliament.

The Registry of Companies and Businesses (RCB) is a ministerial organization within the Ministry of Finance and is responsible for the administration of the Companies Act and the Business Registration Act. These Acts are established to regulate the creation and operation of companies and businesses. The Companies Act originated from the Indian Joint Stock Companies Act of 1857. Indian law was applied to Singapore because during the period 1826 to 1867 Singapore was part of the Straits Settlements and came under British Indian rule from 1830. Following the enactment of the early version of the Companies Act, numerous amendments to the Act were introduced in order to adapt the law to local conditions. By 1965, the reconstituted Companies Act was no longer based upon Indian law but was instead closer to the Victorian Companies Act in Australia. Since then further amendments have been made to the Act, particularly in response to the changing environment. The current Companies Act, which was enacted in 1990, now incorporates substantial provisions relating to financial reporting requirements in the Ninth Schedule, in addition to other requirements with respect to the keeping of proper books of accounts in Part V of the Act. The Registrar of Companies and Businesses is vested with the legal power to charge any person found guilty of non-compliance with the Requirements of the Act.

The Monetary Authority of Singapore (MAS) is another government body responsible for regulating financial reporting in Singapore. The MAS is a statutory board established as a non-ministerial organization under the Ministry of Finance. Among its other regulatory functions is the administration of the Securities Industry Act 1986 and the Futures Trading Act. These Acts aim to provide more effective control and supervision over the activities of the Stock Exchange of Singapore (SES) and the securities and futures industries. The MAS has the authority and legal power to control and supervise the activities of the capital market. The RCB and the MAS are two key regulatory bodies within the public sector with legal power to enforce compliance with financial reporting requirements set forth in the respective Acts. The MAS also has legal jurisdiction over the financial reporting requirements of banks and financial institutions in Singapore.

4.2 Private Sector Regulators

In the private sector, a professional accounting body (the ICPAS) and an advisory body (the Public Accountants Board) are established to regulate and maintain a minimum standard of financial reporting by companies operating in Singapore. The Public Accountants Board, comprising representatives of the accounting profession

appointed by the Minister of Finance, has been entrusted with the role of regulating the practice of public accounting in Singapore. It functions as a "watchdog" body specially created to undertake the registration of practicing accountants and is also charged with responsibility over disciplinary matters pertaining to all practicing accountants in Singapore.

ICPAS performs its role as the sole accounting standard-setting body in Singapore through a committee appointed by the Council of the Institute. The ICPAS is a member of the International Federation of Accountants (IFAC), and therefore the promulgations of the IFAC are generally adopted as accepted accounting practice in Singapore unless the particular standard is not applicable to the local context.

The process of standard setting and adoption in Singapore is relatively straightforward. The Accounting Standards Committee appointed by the Council of the ICPAS examines all International Accounting Standards (IASs) and determines the propriety of adopting the IASs in Singapore. So far 26 IASs have been adopted and issued as Statements of Accounting Standards (SASs) by the Institute. A list of the SASs with their respective IAS equivalent is shown in Appendix 2. These standards are not mandatory but members of the Institute are strongly urged to adhere to them in preparing financial statements. As a result of the emphasis placed on incorporating good accounting standards and practices into the statute, most of the accounting standards are recommended practices issued by the ICPAS and have been incorporated into the latest amended Ninth Schedule of the Companies Act. Therefore non-compliance with most of the SASs is no longer a mere violation of the provisions of the accounting standards issued by the Institute, but it may also amount to a legal offense liable on conviction to the penalties set forth under the Companies Act.

In its bid to maintain high standards of financial reporting in Singapore, the ICPAS also conducts regular reviews of financial statements prepared by its members. These reviews are performed by the Financial Statements Review Committee appointed by the Council of the ICPAS. The Committee reviews published financial statements of listed, gazetted, and private companies for compliance with statutory reporting requirements, the provisions of the SASs, and other recommendations of the ICPAS.

A further measure taken to encourage good disclosure practices is the Annual Report Award (ARA) Competition organized by the ICPAS in conjunction with the Singapore Institute of Management. The objective of the competition is to encourage disclosure of information over and above minimum statutory requirements. The provision of additional information in annual reports, such as social responsibility reports, value-added statements, and reports to employees is necessary if the annual reports are to serve as effective media of mass communication.

Non-compliance with established reporting requirements is controlled by the Financial Statements Review Committee in accordance with the severity of each case. Errant members may be referred to the Public Accounting Practice Committee (PAPC) or to the Investigation Committee of the ICPAS. Members who have committed a series of serious defaults are referred to PAPC for counselling. Follow-up actions are taken by the Financial Statements Review Committee in these cases to ensure that attempts are being made by such members to improve on reporting practices in their financial statements. Members who are suspected of gross negligence

in their financial reporting will be referred to the Investigation Committee. If found guilty, the Disciplinary Committee will be informed and the errant member may be sanctioned in one or more of the following ways:

(A) name removed from the register of members;
(B) suspension of membership for a prescribed period of time;
(C) fine of a sum not exceeding S$5,000; and/or
(D) censure by the ICPAS.

In addition to the Public Accountants Board, another advisory body known as the Securities Industry Council (SIC) was established in January 1973 under the Securities Industry Act to act as a consultative body to the Minister for Finance, the Stock Exchange and the Registrar of Companies. The terms of reference of the SIC include:

(1) Advising the Minister on all matters concerning the securities industry, including the administration of legislation, particularly with regard to the protection of the welfare of investors.
(2) Advising the Committee of the Stock Exchange on matters referred to it and considering recommendations submitted by the Committee, including listing requirements and the suspension and delisting of companies.
(3) Advising the Committee of the Stock Exchange on actions to be taken to prevent or expose unlawful or dishonest forms of trading.
(4) Advising the Committee of the Stock Exchange on applications by companies desiring to raise funds by means of a public issue in any form.
(5) Advising the Registrar of Companies on matters referred to it and on the activities of any company which in the opinion of the Council are suspect.
(6) Administering and enforcing the Singapore Code on Takeovers and Mergers.

The creation of the SIC would appear to be a compromise between an SEC type of control and total self-regulation. The advice of the SIC legally binds neither the government nor the Stock Exchange nor the Registrar of Companies, and it operates by way of consultation and the moral weight of its opinion. Even under the Takeover Code, its sanctions against breaches consist only of a recommendation to the Stock Exchange for the withdrawal of market facilities or a public reprimand in the case of an individual offer. The responsibility of the Securities Industry Council is the enforcement of good business standards and not the enforcement of law. Besides the SIC, the SES also monitors and regulates reporting practices through the issuance of its Listing Manual and Disclosure Policy Guidelines which contains additional financial reporting requirements. These rules and regulations are only applicable to members of the SES and are not mandatory.

4.3 Disclosure Requirements in Published Financial Statements

Based on the discussion of the financial reporting framework in Singapore thus far, it can be seen that the information to be disclosed in published financial statements in Singapore is governed by the following criteria:

(1) Statutory requirements laid down in the Companies Act.

(2) Pronouncements by the ICPAS, namely:
    (a) SASs promulgated by the ICPAS, and
    (b) Recommended Accounting Practices (RAPs), including exposure drafts and provisional accounting standards issued by the ICPAS.
(3) For public listed companies, the various Stock Exchange listing requirements and disclosure policies.

With the exception of the RAPs, all of the above are mandatory for all companies in Singapore. Nevertheless, compliance with the RAPs is strongly recommended by the ICPAS in the interest of continuing improvement in company reporting standards in Singapore. A brief discussion of each of the above disclosure requirements follows.

The Companies Act

The Companies Act has always been an important influence on corporate reporting in Singapore. Section 109 of the Act requires every company as well as directors and managers to be responsible for the proper maintenance of books of accounts and other records. The records must be kept in such a fashion as to enable a true and fair profit and loss statement and balance sheet, and any other documents required to be attached thereto, to be prepared from time to time. They must also enable an audit to be carried out conveniently and properly, and all records must be retained for a statutory period of 7 years. An annual audit must be conducted, and audited financial statements must be laid before the shareholders at the Annual General Meeting of the company. In addition, Section 201(15) requires directors of the company to prepare and present consolidated financial statements at the annual general meeting.

The Companies Act does not prescribe any standard reporting format for the financial statements, although considerable details with respect to the contents of disclosure are prescribed in the Ninth Schedule of the Act. Therefore, subject to the need to prepare a profit and loss statement and balance sheet, the accountant is at liberty to present the information in as clear and logical a manner as he/she can. Notwithstanding the requirements of the Ninth Schedule requiring detailed disclosure of various financial information, the Act (Section 201 (14)) provides for departure from these requirements if adherence to them would affect the true and fair view of the accounts. In such circumstances, the directors of the company are required to provide such information and explanations as are necessary to present a true and fair view of the accounts. The contents of the directors' report are also detailed in the Act.

The Ninth Schedule of the Act lays emphasis on the need for directors to disclose their interests and benefits received in the course of their office. This is to regulate and prevent the abuse of their position of trust within the company. More importantly, it prescribes the minimum statutory requirements that must be adhered to in the preparation of the financial statements. Some of the important requirements of the Ninth Schedule are as follows:

(1) The profit and loss account (or income statement) must provide details of investment income, profit and loss on sale of fixed assets, depreciation, debt write-offs and provisions, directors and auditors' remunerations, taxation charges, movements in reserves and provisions, and dividends paid for the year.

(2) The balance sheet must contain details relating to share capital, reserves and provisions, current and non-current liabilities, contingent liabilities, fixed and current liabilities, intangibles and liabilities secured on assets of the company. Assets and liabilities must be analyzed in some detail, the basis of valuation of assets must be stated and the basis of foreign currency conversion must be disclosed.

In line with the current trend in other countries (especially the United Kingdom), the emphasis is now to incorporate into statute the financial information regarded as best accounting standards and practices. Accordingly, extensive amendments were enacted into the Ninth Schedule of the Companies Act in 1990, so as to bring it in line with the accounting standards and recommended practices adopted by the ICPAS.

The above provisions apply to all companies registered with the Registrar of Companies and Businesses, with the exception of exempt private companies. An exempt private company is a private company with no more than 20 members, none of whom is a corporate body or a nominee of corporate bodies (even if they are themselves exempt private companies). Companies which fit into the definition of an exempt private company do not have to comply with the requirement to prepare and file annual financial statements.

The Companies Act also requires all limited companies to appoint independent auditors, who must be registered with the Public Accountants Board and the ICPAS.

Accounting Standards and Recommended Practices

To date, the ICPAS has issued 27 accounting standards, of which 26 are adapted from International Accounting Standards (IAS). A summary of the standards and their IAS equivalent is included in Appendix 2 of the paper. A large number of the IASs have been modified and adapted to the local environment.

The only accounting standard to be adopted by the ICPAS and which is not an IAS equivalent is SAS 6: Earnings Per Share. This standard is adopted from the Statement of Standard Accounting Practice (SSAP) issued by the Institute of Chartered Accountants in England and Wales.

A summary of the modification made to the various IASs by the ICPAS is included in Appendix 3.

The Securities Industry Act 1986 and Stock Exchange Requirements

The Securities Industry Act 1986 and the accompanying regulations came into effect on August 15, 1986. It repeals the Securities Industry Act 1973. The 1986 Act contains provisions with regard to the following:

(1) establishment and regulation of stock markets;
(2) licensing of dealers, dealers' representatives, investment advisors and investment representatives;
(3) reports to be kept by dealers, dealers' representatives, investment advisors, financial analysts, among others;
(4) conduct of securities business;
(5) accounts to be kept by dealers and requirements for audit;

(6) investment of stockbrokers' trust funds;
(7) fidelity funds; and
(8) trading in securities.

The Stock Exchange Listing Manual requires a company to submit a 6-monthly/ interim annual report to the Exchange not later than 3 months after the end of the first 6 months of the financial year. In addition, a company must also submit preliminary financial statements as soon as they are available, and in any event not later than 3 months after the end of the financial year. The maximum interval between the end of the financial year and the issue of the printed annual report to the shareholders and the Exchange should not exceed 6 months.

The Stock Exchange of Singapore's Corporate Policy was issued on May 26, 1973, in recognition of the need by the managements of publicly held corporations for more specific guidance in making decisions involving full and timely disclosure of significant corporate developments. The Corporate Policy sets forth guidelines with regard to the following six areas of corporate disclosure:

(1) Immediate public disclosure of material information

A listed company is required to make immediate public disclosure of all material information concerning its affairs, except in exceptional circumstances.

(2) Thorough public dissemination of information

A listed company is required to release information of a material nature in a manner designed to facilitate its widest dissemination to members of the public.

(3) Clarification or confirmation of rumors and reports

A listed company is required to publicly clarify, as promptly as possible, rumors or reports containing information that is likely to have, or has had, an effect on trading in the company's securities, or would have a bearing on investment decisions.

(4) Response to unusual market activity

Whenever unusual market activities take place in a listed company's securities, the company should make inquiries to determine whether rumors or other conditions requiring corrective action exist, and if so, to take the necessary action to dispel those rumors.

(5) Unwarranted promotional disclosure

A listed company should refrain from promotional disclosure activity which exceeds that necessary to enable the public to make informed investment decisions.

(6) Insider trading

Insiders are prohibited from trading on the basis of material information which is not known to the investing public. Insiders are also restricted from trading, even after material information has been released, for a period sufficient to permit thorough public dissemination and evaluation of the information.

Following the enactment of the Securities Industry Act 1986, a set of SES Guidelines was issued to help management of listed companies with the application of the disclosure policies of the Stock Exchange. These guidelines set forth various criteria and situations which give rise to questions in respect of fully and timely disclosure. The new guidelines

reflect the views of the SES in the light of their experience with disclosure problems of listed companies, as well as problems encountered in recent court decisions relating to disclosure. They also describe in detail the contents and preparation of public announcements by listed companies and guidelines regarding the new SES Exchange Surveillance Procedures which are conducted by the Listing Department.

The important disclosures that are required by the SES Guidelines over and above the normal requirements of accounting standards and the Ninth Schedule of the Companies Act are as follows:

(1) the provision of a statement showing the sales turnover or gross trading income during the preceding five financial years; and
(2) the provision of a statement stating:
 (a) the financial and trading prospects of the company;
 (b) an analysis of the financial conditions and operations of the company or group;
 (c) particulars of the directors, proposed directors and executives, such as the name, address, other directorships, bankruptcy suits and criminal convictions (if any) of such persons;
 (d) statements by experts and a valid written consent from the expert to have the statement included in the prospectus;
 (e) a history of the company; and
 (f) a profit forecast and dividend declared, and an accountant's report relating to these matters.

Comparison with UK Companies Law

According to Foo and Ng (1993), some of the important differences between the Singapore and UK Companies Acts are as follows.

Format of financial statements. The Ninth Schedule of the Singapore Act prescribes details to be disclosed in financial statements but does not lay down any formats for the financial statements. The UK Act, on the other hand, prescribes formats for both balance sheet and the profit and loss account.

Contents of profit and loss account. Unlike the UK Act the Singapore Companies Act does not require disclosure of cost of sales and gross profit. Income from investments need only be split into quoted/unquoted and subsidiary/non-subsidiary categories. Depreciation expenses for fixed assets, investments and intangibles must be disclosed separately. Interest on loans, debentures, deposit, or advances must be split into that paid to:

(1) holding company;
(2) subsidiaries;
(3) other related corporations; other persons.

Filing exemptions for certain companies. The UK Companies Act exempts "small" and "medium-sized" companies from full filing requirements that meet certain conditions. These exemptions do not include public companies or banking, insurance

or shipping companies. These conditions must be satisfied for at least two consecutive years. In contrast, if a company is an exempt private company, which the Singapore Act defines as a private company with no more than 20 members and whose shares are not held directly or indirectly by any corporation, the company is not required to submit financial statements to the Registrar of Companies and Businesses. In lieu of financial statements, the Eighth Schedule of the Act requires a certificate to be signed by a director, the secretary, and the auditor of the company, and filed with the Registrar. The certificate states, *inter alia*, that the company appears to be able to meet its liabilities as and when they fall due.

5. Conclusion

This paper has examined two aspects of accounting in Singapore: accounting education and the development of the profession and practice of accounting. This paper has taken a historical and descriptive approach to the discussion of these issues to place the development of the system of accounting education and the practice of accountancy in Singapore in perspective. The role of accounting education and practice has emerged largely in response to the changing needs of the Singapore environment. One evidence of this is the major increase in the student enrolment of accountancy degree programs at the School of Accountancy and Business. The accounting profession has also adapted rapidly to the demand placed upon it by industry as evidenced by the tighter control and regulation of practicing accountants and the requirement for continuing education of practicing accountants today.

For historical reasons, corporate financial reporting practices and standard setting in Singapore are, to a large extent, patterned after the practices adopted in the United Kingdom and other Commonwealth countries. Singapore is a member of the International Federation of Accountants Committee (IFAC), and therefore the ICPAS has consistently adopted the promulgations of the IFAC, namely the International Accounting Standards (IASs), as accepted accounting standards and practices. The aim of adopting IASs as Statements of Accounting Standards in Singapore is to narrow the differences in accounting practices between Singapore companies and those of the international community. This symbolizes Singapore's commitment to the cause of international harmonization of accounting practices.

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Appendix 1: ICPAS Rules and Guidelines – First Schedule

All applicants for admission shall satisfy the following requirements in regard to professional examinations, experience pre-admission course and proficiency in local laws.

Professional Examination

An applicant shall at the time of his application for admission either

(a) have passed the final examination in accountancy of one of the following:
- (i) the Singapore Polytechnic for the professional diploma and for the degree course for the years 1961 to 1969;
- (ii) the University of Singapore for the degree of Bachelor of Accountancy;
- (iii) the Nanyang University of Singapore for the degree of Bachelor of Commerce (Accountancy) or Bachelor of Accountancy provided that an applicant who has obtained the degree of Bachelor of Commerce (Accountancy) from Nanyang University prior to 1969 shall have also passed such qualifying examinations as the Council may determine;
- (iv) the National University of Singapore for the degree of Bachelor of Accountancy;
- (v) the Nanyang Technological Institute (renamed Nanyang Technological University in 1991) for the degree of Bachelor of Accountancy;
- (vi) the Institute of Certified Public Accountants of Singapore (formerly the Singapore Society of Accountants) – Chartered Association of Certified Accountants of the United Kingdom Joint Scheme; or

(b) have passed the final examination in accountancy of one of the following or its recognized equivalent:
- (i) the Institute of Chartered Accountants of Scotland (ICAS);
- (ii) the Institute of Chartered Accountants in England and Wales (ICAEW);
- (iii) the Institute of Chartered Accountants in Ireland (ICAI);
- (iv) the Chartered Association of Certified Accountants (ACCA);
- (v) the Institute of Chartered Accountants in Australia (ICAA);
- (vi) the Australian Society of Accountants (ASA);
- (vii) the New Zealand Society of Accountant (NSA);

(viii) the Canadian Institute of Chartered Accountants (CICA);
(ix) the American Institute of Certified Public Accountants (AICPA);
(x) the Chartered Institute of Management Accountants of the United Kingdom (CIMA), provided that CIMA members applying to be admitted as a practicing member shall pass the following subjects:
(1) Advanced Financial Accounting:
(2) Auditing and Investigations and shall pass such other examinations and fulfill such requirements as may be determined by the Council.

Appendix 2: The Institute of Certified Public Accountants of Singapore Technical Pronouncements as of March 1993

Statement of Accounting Standard (SAS)

SAS	IAS	Standard	Effective Date
1	1	Disclosure of Accounting Policies	1 Jan. 1977
2	2	Valuation and Presentation of Inventories in the Context of the Historical Cost System	1 Jan. 1977
3	3	Consolidated Financial Statements (superseded by SASs 26 and 27)	1 Jan. 1977
4	4	Depreciation Accounting	1 Jan. 1977
5	5	Information to be Disclosed in Financial Statements	1 Jan. 1982
6	–	Earnings per Share	1 Jan. 1983
7	7	Statement of Changes in Financial Position	1 Jan. 1979
8	8	Unusual and Prior Period Items and Changes in Accounting Policies	1 Jan. 1981
9	9	Accounting for Research and Development Activities	1 Jan. 1981
10	10	Contingencies and Events Occurring after Balance Sheet Data	1 Jan. 1981
11	11	Accounting for Construction Contracts	1 Jan. 1983
12	12	Accounting for Taxes on Income	1 Jan. 1984
13	13	Presentation of Current Assets and Current Liabilities	1 Jan. 1983
14	16	Accounting for Property, Plant and Equipment	1 Jan. 1984
15	17	Accounting for Leases	1 Jan. 1985
16	18	Revenue Recognition	1 Jan. 1985
17	19	Accounting for Retirement Benefits in the Financial Statements of Employers	1 Jan. 1985
18	20	Accounting for Government Grants and Disclosure of Government Assistance	1 Jan. 1985
19	23	Capitalization of Borrowing Costs	1 Jan. 1986
20	21	Accounting for the Effects of Changes in Foreign Exchange Rates	1 Jan. 1986
21	24	Related Party Disclosure	1 Jan. 1987
22	22	Accounting for Business Combinations	1 Jan. 1987
23	14	Reporting Financial Information by Segment	1 Jan. 1987
24	26	Accounting and Reporting by Retirement Benefits Plans	1 Jan. 1988
25	25	Accounting for Investments	1 Jan. 1988
26	27	Consolidated Financial Statements and Accounting for Investments in Subsidiaries	1 Jan. 1990
27	28	Accounting for Investments in Associates	1 Jan. 1991

Appendix 3: Modifications to International Accounting Standards (IASs) in Statements of Accounting Standards (SASs)

SAS 1: Disclosure of Accounting Policies

IAS 1 was modified by an Appendix relating to the concept of substance over form. This Appendix was added to the standard to elaborate on the application of the stated concept in special cases. Examples of these special cases include:

(i) Finance leases

Although finance leases are classified as leases, their accounting treatment should be different from that of operating leases, and a finance lease asset should be shown as an asset in the lessee's financial statements.

(ii) Sale of securities under repurchase agreements

Repurchase and reverse repurchase agreements are in substance not sales and purchases of securities but financing transactions, and the accounting treatment should therefore reflect their economic substance rather than their legal form. To treat such translation as dealings in securities in the financial statements may therefore be misleading.

(iii) Imputation of interest

Certain long-term receivables and payables which are contractual rights to receive or pay money at a fixed or determinable future date should be recorded at their present values, if either the interest rate is not stated or the stated interest rate is unreasonable.

SAS 4: Depreciation Accounting

IAS 4 was modified by an Appendix on depreciation accounting for investment properties. As a result, investment properties are exempted from the requirements of SAS 4 and SAS 14. An option is given on the accounting for such properties. Investment properties can either be treated as property in accordance with SAS 14 and depreciation should be computed in accordance with SAS 4, or they could be accounted for as an investment in the balance sheet at open market value, taking into consideration increases and decreases in its carrying amount. The method of treatment adopted must be disclosed in the notes to the financial statements.

SAS 5: Information to be Disclosed in Financial Statements

IAS 5 was modified by a Foreword as follows:

(i) Banks, insurance and discount companies are exempted from the requirements of this Statement.

(ii) Companies with total assets or other operating revenues of less than S$1 million per annum need not disclose the amount of sales or other operating revenues.

Extra guidelines on certain items in SAS 5 are also given to assist members in deciding what is regarded as best practice.

SAS 7: Statement of Changes in Financial Position

IAS 7 was modified by a Foreword exempting enterprises other than public companies with sales and other operating revenues of S$1 million or less, and exempt private companies from the requirements of this Statement. However, all companies whose financial statements are required to be published under regulatory requirements, e.g. in the government gazette, must comply with this Statement.

SAS 11: Accounting for Construction Contracts

Additional guidelines on the definition of terms and examples of special circumstances are provided in the Foreword to assist members in applying the Statement.

SAS 12: Accounting for Taxes in Income

Additional guidelines on the interpretation of terms and the accounting treatment for companies granted tax incentives are provided in the Foreword.

SAS 14: Accounting for Property, Plant and Equipment

IAS 16 was modified by a foreword on the accounting treatment for transactions such as exchange of assets and trade-ins. In exchange transactions whereby non-monetary assets are exchanged between entities, the fair value of the assets surrendered or received (whichever is more clearly evident) should be used to record this transaction. For trade-ins, the cost of the new asset is commonly recorded at the amount of the monetary consideration paid plus the lower of the unexpired cost or the fair value of the trade-in surrendered.

SAS 20: Accounting for the Effects of Changes in Foreign Exchange Rates

Additional Guidelines are provided by a Foreword with respect to the definitions of terms and a hypothetical example to illustrate the calculation of unrealized gains and losses.

SAS 21: Related Parties Disclosure

The Singapore standard adheres closely to the IAS equivalent (IAS 24).

SAS 23: Reporting Financial Information by Segment

Both Statements (SAS 21 and SAS 23) are modified to exclude banks, insurance and discount companies from the requirement of the Statements.

SAS 24: Accounting and Reporting by Retirement Benefits Plans

The Statement was modified to exclude retirement benefits provided under the Central Provident Fund Scheme.

SAS 25: Accounting for Investments

This Statement was modified by a Foreword which supersedes the Appendix to SAS 4 on Accounting for Investment Properties.

SAS 27: Accounting for Investments in Associates

This Statement was modified by a foreword with regard to the following:

(a) In Singapore, in addition to the consolidated financial statements, separate financial statements for the holding company are also required. In the separate financial statements of a holding company, where the equity method is used for associates, the same method should be used for the accounting for subsidiaries, or vice versa.

(b) A wholly owned subsidiary which is exempt from issuing consolidated financial statements is also exempt from applying the equity method to account for investment in associates.

(c) An investor which has no subsidiaries or which does not otherwise prepare consolidated financial statement should use the equity method to account for its share of the results of associates according to paragraph 27(b) and its share of the post-acquisition retained profits and reserves as follows:

Balance sheet items – The investor's share of post acquisition retained profits and reserves in associates should be shown in the balance sheet or by a note.

Profit and loss items – In addition to the investor's own profit and loss accounts, a profit and loss account should be prepared for the investor which incorporates the results of its associates. Such a profit and loss account may be shown by a note or presented as a separate profit and loss account.

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The International Journal of Accounting

Book Reviews

The Power to Manage: Restructuring the New Zealand Electricity Department as a State-Owned Enterprise – The Electricorp Experience

by Barry Spicer, Robert Bowman, David Emanuel and Alister Hunt, with Michael Bradbury, Darien Kerkin and Paul Rouse, *Oxford University Press, Auckland, 1991, 188 pp.*

The authors of this case study include some of New Zealand's best-known professors of accounting and finance. Barry Spicer, in particular, is well known for his advocacy of more and better case research in accounting (e.g., Spicer, 1991). In this book, Professor Spicer (with six other authors) gives us an example of this kind of work. He and his colleagues have chosen a very interesting case, that of Electricorp. Electricorp (the Electricity Corporation of New Zealand Limited) was formerly a trading department of the New Zealand government and became the largest state-owned enterprise, or government-owned corporation, under a program of reforms in 1986.

The case provides information about the company itself, about the "new public management" for which New Zealand is becoming well known in international literature (Hood, 1990; Pallot, 1991), and about the general process of transforming an organization from part of the central public service to a separate trading entity. As such, it is written for an audience involved with management and public administration, as well as accounting and finance.

While some specific details of this book are mainly of interest to New Zealanders, it has value to an international audience. Similar processes of change within formerly government-controlled entities are happening to an increasing extent throughout the world. In any event, the possible benefits of giving government entities a corporate form has also been an issue in public administration in other countries, for example in the United States (Moe, 1979; Seidman, 1980). In this setting, the New Zealand government was concerned with making state trading organizations more efficient by giving them clear commercial objectives, making them subject to competition, and giving their executives "the power to manage".

The first chapter of the book briefly discusses this policy and identifies the objectives and methods of the study. Six sets of questions are considered. Each of them is discussed in a subsequent chapter. The authors received substantial co-operation from the New Zealand Treasury and from the management of Electricorp. They used a variety of sources of data, but appear to have found interviews with management, and analysis of documents, to be the most useful sources.

Chapter 2 provides an overview of the economic reforms in New Zealand, of which the restructuring of Electricorp was part. The reforms include a change in

philosophy for government trading organizations such as the old New Zealand Electricity Department. They were no longer expected to achieve non-commercial social goals as well as commercial ones. They were expected to be run as successful businesses.

What difference did this make? Chapter 3 is concerned with how and why the organization was managed differently after becoming a state-owned enterprise. The new managers adopted strategies to maximize the value of Electricorp. These included a pricing strategy that would deter competitors from entering the market, building market share and volume, and negotiating an appropriate level for the rate of return required by the cabinet ministers responsible for the corporation. They revised the management structure to avoid claims that Electricorp held a monopoly (which could lead to its becoming subject to a regulatory authority). Finally they aimed at developing a profit-oriented "culture." Although the culture of the organization was changed by the reform process, it is not clear how far into the organization this process has gone. For example, the case study describes how Electricorp closed down one of its maintenance groups, since it was too difficult to change the attitudes of the existing staff.

In chapter 4, the authors describe how a new management structure was developed. The principle underlying this structure was "autonomy within defined areas of responsibility and accountability." That is, political interference with day-to-day management decisions was removed, and managers became responsible for each business unit earning a profit.

Chapter 5 examines the wider changes in the extent of competition in the economy that resulted from Electricorp being established. The authors conclude that the corporation enhanced the market for debt (by creating markets for new kinds of debt instruments), but it reduced the potential for competition in the supply of electricity itself. This was a result of fairly ruthless pursuit of the company's performance targets. Electricorp's targets were based on return on equity, return on assets and increase in value of the shareholders' investment. Its activities to achieve them included buying the last available supply of natural gas in New Zealand and some strategic sites that could be used for power generation, simply to block potential competitors from entering the market.

The political and social pressures on Electricorp are discussed in chapter 6. This chapter describes how becoming a corporation changed the nature of the political and social pressures on electricity generation. There are a variety of complex pressures on Electricorp, as a publicly owned enterprise, and in general the change to a corporate form does not appear to have reduced them to any great extent.

How did the performance of the organization change? This central issue is dealt with in chapter 7. The authors answer the question mainly through an analysis of financial measures. They report that after becoming a corporation, the organization achieved higher profits, higher returns on assets and investments, and higher output per employee. They note that these improved results were achieved "without any obvious degradation in the quality of the generation and transmission systems."

Finally, reflections on the experience of creating a corporation from the old government department are offered in chapter 8. The authors regard the change to a corporate form as successful in this case. They conclude that the skills of two key

leaders, the corporation's chairman and its chief executive, were responsible for a large part of the performance of Electricorp. They note that it is difficult to recruit good managers. However, they believe that changing to a corporate form was important in allowing high-quality executives to be found. Sweeping changes could be made, and this possibility attracted good managers, and gave them more opportunity. However, Spicer et al. also conclude there is some doubt about whether the state-owned-enterprise form of organization will avoid political interference in the longer term, and whether the gains in efficiency might be better preserved by privatizing Electricorp.

In earlier work, Spicer suggested that Yin's *Case Study Research* (1989) was "an important book that should be carefully read and applied by all accounting researchers who expect to conduct case research." It therefore seems fair to judge Spicer et al.'s case study by Yin's standards. Yin listed five general characteristics of an exemplary case study, one that is produced by an esteemed scientist, not merely a good technician. To meet these high standards, a case study must be significant, be complete, consider alternative perspectives, display sufficient evidence, and be written in an engaging manner.

How well does *The Power to Manage* measure up to these standards? It is certainly significant, both in New Zealand and, as I have argued, internationally. And although the standard of writing varies, as one would expect with such a large group of writers, it is generally interesting and draws one's attention.

The other criteria are related. Yin suggests that an exemplary case study should show us that any further information added would have been of diminishing relevance, and should show alternative points of view about what took place. Although the case study scores well in these areas, it could perhaps have gone further. According to Yin, researchers conducting a case study should state any alternative perspectives as forcefully as possible, and then show empirically how these alternatives should be rejected.

It would have been interesting if that approach had been used in this case study. For example, although the changing relations with unions were an important part of the reforms, the evidence concerning them is all presented from a management perspective. I could not find any evidence that the researchers had spoken to any union officials, or workers at lower levels in the organization, to seek an alternative point of view. Some consumers and politicians probably hold alternative views of the corporatization process, too, and it would have added to the richness of the case if these had been explored. Nevertheless, there are limits to what can be covered, and many readers would prefer the book to be of this manageable size. If it does not reach the standard of perfection, this book is still a considerable and worthwhile achievement.

Epilogue: Manage the Power, Too

The book's title is a clever play on words, since it is concerned with both organizational power and electric power. Unfortunately, it developed a rather hollow ring in the middle of 1992, as a major electricity crisis developed, in which Electricorp became unable to supply its customers. By the time this review was written, the corporation

was in disgrace. An opinion poll showed that 65% of New Zealanders believed that Electricorp's top management should be sacked. Some managers had already left the organization; and a government inquiry into its management policies was in Progress.

The Power to Manage was written before all that happened, and no one can fault the authors for not being able to predict the future. However, it is important for international readers to be aware that Electricorp is no longer so widely seen as a successful example of an organization being transformed. This book helps us, in retrospect, to see how some factors that may have influenced the crisis already existed in 1991. Electricorp's costs were higher than the long-run marginal cost for a potential new entrant to the industry. Its managers believed that the company had surplus capacity, much of which used expensive fossil fuels (in contrast to the remaining generating requirements, which are mainly met with cheap hydro-electric power). In addition, there was pressure from the government to get a higher return on its investment in Electricorp.

Spicer and his co-authors mention these factors at various points in the book. It now appears that, as a consequence of these problems, in 1992 Electricorp's managers made the decision to use hydro-electric generation capacity as much as possible, and to close down some thermal plants. They were unlucky. A drought meant the lakes used to store water for power generation did not refill before winter, and there was a severe electricity shortage. Electricorp executives vehemently deny that they acted recklessly in order to maximize profits.

It is not possible to say whether the electricity crisis was a product of the changes in Electricorp's management, or whether it was simply an unavoidable climatic catastrophe. However, the underlying question in *The Power to Manage* is concerned with whether it is better to operate a state-owned business in a corporate form with commercial objectives. In the 1992 electricity crisis, the company's image as a well-run organization suffered, to the extent that some commentators would probably prefer a return to the old form of management.

The company's recent experiences make this book of even greater interest. But it needs to be read with these experiences in mind.

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[1]William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2]Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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Does National Culture or Professional Knowledge Affect Auditors' Probabilistic Conjunction Judgments? A Study of The United States versus Taiwan

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Key words: Auditing; Causal probability judgment: Inference order; Experience-related knowledge

Abstract: *This study explores the effect of national culture and experience-related knowledge on auditors' diagnostic probability judgments. Since Taiwan strictly follows the accounting and auditing standards of the United States, Taiwanese auditors' diagnostic probability judgments were compared with those of American auditors. Furthermore, American students' diagnostic probability judgments were compared with those of Taiwanese students. The results show that, in the audit case, professional knowledge, not the national culture, plays the dominant role in auditors' diagnostic probability judgments. However, in the generic medical case, national culture clearly influenced auditors' and students' diagnostic probability judgments.*

In the international accounting and auditing community, the need for globalization is receiving increased attention. Regulatory bodies of different countries usually establish different accounting and auditing standards for their professions to follow. For example, British and German accounting and auditing standards are quite different from those of the United States. Due to differences in the accounting and auditing standards, it is likely that auditors make different judgments under the same circumstances. Also, there are several countries using the same accounting and auditing standards. For example, Japan, Korea, and Taiwan adhere to many of the Generally Accepted Accounting Principles (GAAP), Statements on Auditing Standards (SAS), and the regulations and other standards promulgated in the United States. Before discussing ways of implementing the "standardized" accounting and auditing standards in the international community, it is important to investigate whether the same accounting and auditing standards can really direct auditors of different countries to

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make similar judgments. Or, whether, regardless of the use of the same accounting and auditing standards, auditors' judgments still will differ due to differences in their national cultures.

Several studies have shown that culture is an important variable in decision-making processes.[1] Different national cultures provide different frameworks of knowledge, so a person's national culture could imply an effect on his/her judgment strategies when making decisions.[2] It is likely that members of divergent cultures react differently to the same phenomena. Also, several studies have demonstrated systematic cultural differences in people's probability judgments.[3] Most previous cross-cultural studies on probability judgments have used student subjects working on generic tasks. Thus, it is unknown to what extent national culture has an effect on experienced professionals' probability judgments in domains with which they possess experience-related knowledge. Whether professional knowledge can mitigate differences in judgment caused by differences in national culture is an empirical question.

In making decisions, auditors regularly use causal knowledge to reason in two different directions (or inference modes). They think from known effects to unknown causes in making *diagnoses* and from known causes to unknown effects in making *predictions*. For example, to explain a significant increase in the gross margin ratio (gross margin/net income), an auditor has to assess the likelihood of errors or irregularities such as sales having been recorded while goods were not shipped. Similarly, when an auditor observes that the client has significantly less working capital than the average firm in the industry, he/she has to estimate the probability that the client is likely to fail within three years. In some single-decision situations, both types of inference modes may be used concurrently. Einhorn and Hogarth[4] posited that people may incorrectly apply these two inference modes in making judgments. Ho and Keller[5] found that when the task involves a domain with which auditors have experience, auditors' diagnoses were influenced by the inference presentation order. Specifically, making predictions prior to diagnoses has a significant influence on auditors' subsequent diagnostic conjunction probabilities.

Countries such as Japan, Korea, and Taiwan follow many of the accounting and auditing standards of the United States. Furthermore, major public accounting firms of these countries are affiliates of the US Big Six accounting firms and use the revised audit manuals of their American affiliates. Although national culture plays an important role in both formal and informal education systems of these countries, auditors' usually undergo instruction and professional training similar to that of American auditors. Thus, it is likely that American auditors and their affiliate auditors will have similar professional judgments.

In this study, we extend the study by Ho and Keller[5] and explore whether professional knowledge or national culture influences auditors more in making diagnostic conjunctive probability judgments. Auditors from four American-affiliated Taiwanese public accounting firms participated in the experiment. Furthermore, we intend to compare our results with Ho and Keller's study of the effect of experience and to further explore the effects of culture. To accomplish this, undergraduate students from a major Taiwanese university also participated in the experiment. Our results show that in a generic medical case where neither auditors nor students have

experience-related knowledge, national culture clearly influenced their diagnostic probability judgments, which is consistent with findings in the comparative culture literature. However, in a familiar audit context where auditors have experience-related knowledge, the effect of national culture on auditors' diagnostic probability judgments was mitigated by their professional knowledge. Furthermore, while the base rates of both Taiwanese and American auditors were similar in the audit case, unlike American auditors' diagnostic probability judgments which were influenced by the inference order in the audit case, Taiwanese auditors' diagnostic probability judgments were not influenced by the inference order in both the audit and the medical cases. Interestingly, a further examination reveals that Taiwanese auditors' not being influenced by the inference order probably was not due to their ability to disentangle the two inference modes, but due to their anchoring on predictions when making diagnoses and their anchoring on diagnoses when making predictions.

Background

Domain-specific knowledge affects individuals' information processing and facilitates their learning a relationship between existing knowledge and new information.[6] The role of experience in auditors' casual judgments has been investigated in a number of contexts.[7] The evidence suggests that an expert's memory structure and the way the knowledge is organized affects his/her judgment processes. Several recent auditing studies provide indirect evidence supporting the notion that the representation process depends on domain-specific knowledge. Frederick and Libby,[8] for example, demonstrated that experienced auditors possess more knowledge and have a different memory structure than novices. Because of the different memory structure, experienced auditors are affected by representativeness, while students who lack knowledge of the relationships between internal control weaknesses and errors are unaffected by differences in representativeness. In a later experiment,[9] they showed that experience plays a crucial role in the memory-based plausibility assessment process. Furthermore, research in expert judgment has revealed that individuals use "general or default" heuristics in situations where they lack familiarity with the task. However, influenced by training and experience, individuals may develop "specialized" heuristics in situations with which they have expertise.[10] Such specialized heuristics may aid experienced decision makers in many routine judgment contexts, but sometimes these heuristics may lead to biased judgments.

In an audit opinion formulation process, auditors apply different types of knowledge and use different inferences (e.g., diagnosis and prediction) in each subtask.[11] When diagnosing observed events or predicting the future, an auditor may activate a causal schema (cognitive paradigm) and then fit whatever information is available into it.[12] The development of the causal schema depends on a decision maker's domain-specific knowledge, task-specific knowledge, and the inference mode involved.[13] Waller and Felix[13] illustrate that, in an internal control context, auditors focus mainly on sufficiency when predicting an effect and on necessity when explaining (diagnosing) an effect.[14] Auditors' predictions and diagnoses may trigger different ways of processing information about causal judgments. As Frederick and Libby[9] noted, in

order to understand the role of expertise in auditors' judgments, a more detailed analysis of the nature of audit knowledge is required.

To identify conditions under which people may incorrectly apply the two inference modes in making judgments, Ho and Keller[5] investigated how experience-related knowledge and the inference presentation order affect an auditor's diagnostic conjunction judgments. They found that students, who lacked experience-related knowledge in both audit and medical domains, were not influenced by making predictions prior to making diagnoses in both cases. Auditors, however, were affected by the inference presentation order in the audit case in which they had experience-related knowledge, but were unaffected by the inference order in the medical case in which they possessed no experience-related knowledge. Ho and Keller, therefore, argued that making a prediction prior to a diagnosis has a significant impact on a person's subsequent diagnostic conjunction probabilities when the task involves a domain in which the person has experience-related knowledge.

Culture has been shown to be an important variable in decision-making processes. Swidler[15] argued that "culture influences people's actions by shaping a repertoire of habits, skill, and styles from which people construct strategies of action, but not by providing the ultimate values toward which any particular action is oriented." Because of important differences in the way people of different cultures perceive and interpret information, they often reach very different conclusions even when they are presented with identical information.[16] For example, psychiatrists with different cultures diagnosed differently and prescribed different treatments for manic-depressives.[17]

Some studies have demonstrated systematic national cultural differences in people's probability judgments.[3] For example, Yates et al.[3] found that culture affects accuracy and calibration of people's probability judgments. Wright and Philips[3] observed that British subjects were less likely to give responses of 100 percent probability than were Asians. Previous cross-culture studies have used students or professionals (i.e., managers) working only in generic contexts. As discussed above, countries such as Japan, Korea, and Taiwan follow many of the GAAP, SAS, and the regulations and standards promulgated in the United States. Also, major Taiwanese accounting firms mainly use revised audit manuals of the Big Six firms with whom they are affiliated. Auditors make professional judgments quite often during the course of an audit, hence they gradually acquire experience-related knowledge. Therefore, in audit contexts, we predict that experience-related knowledge will have a greater influence than national culture will have. Specifically, American and Taiwanese auditors will have similar professional judgments (e.g., diagnostic probability judgments) and similar judgment processes (e.g., influence by the inference presentation order). On the other hand, in generic contexts (e.g., a simplified medical case) where these professional auditors have no specialized knowledge or experience, we hypothesize that their national cultures will have a greater influence on their diagnostic probability judgments. More specifically, in generic contexts, members (e.g., auditors and students) from the same culture will make similar diagnostic probability judgments, while members of the divergent culture will make quite different probability assessments.

Methods

Procedure and Experimental Design

To examine whether the inference order does affect the diagnoses of individuals from different national cultures, the experimental tasks used in this study are based upon Ho and Keller.[5] Ho and Keller used both auditing and medical tasks to conduct an experiment based on the standard conjunction paradigm. Contrasting audit and medical settings provided an opportunity to investigate whether the same pattern of conjunction violations, in general, and any inference order effects, in particular, occur across situations in which people have different cultures and different levels of experience. Experienced auditors are assumed to have experience and domain-specific knowledge in the audit case but not in the medical case. Both cases require several probability judgments that involve causal reasoning. Each subject received the audit case first, then the medical case.

Audit Case

The chosen audit task was analytical procedures, which provides a natural setting for examining diagnoses and predictions's and conjunction effects. [19] In performing analytical procedures, an auditor examines financial statement information and forms his/her expectations for the financial relationships either from information stored in memory[20] or from external sources.[21] Next, the auditor determines if there has been an unusual fluctuation and then, if the unexpected value is sufficiently large to warrant further investigation, infers the possible cause(s) of the difference, and structures audit procedures to investigate the cause(s).

The experimental materials were designed to allow manipulation of inference order. All subjects made both diagnoses and predictions, and inference order was varied to lead subjects to make either diagnoses first or predictions first. Half of the subjects made diagnostic probability judgments followed by predictions and the other half made predictive probability judgments followed by diagnoses. A subject who made diagnoses (predictions) first in the audit case also made diagnoses (predictions) first in the subsequent medical case.

Subjects' probability reasoning was explored by comparing the actual probabilities assigned to separate events and their conjunctions against the normatively correct conjunction rule. The conjunction rule states that the probability of a conjunction, $P(A \cap B)$, cannot exceed the probability of either of its constituents, $P(A)$ or $P(B)$. For the case of conjunctions with two constituents, a *single error* is defined as assessing the probability of a conjunction to be higher than the probability of either of its constituents, and a *double error* is defined as assessing the conjunction's probability to be higher than both of its constituents' probabilities. *Conformity* means that the probability of a conjunction of two causes has not been rated higher than the probability of either constituent. The frequency of departures from the normatively correct conjunction rule is used as evidence of various influences on auditors' probability reasoning.

In the audit case, subjects were then presented with seven possible event items that might have caused the fluctuation in one of two orders shown below. Each of these items consisted of one or more potential events. The high plausible event is labeled as Hi and the low plausible event is denoted as Lo.

Plausibility	*Events*
Hi_1	Ending inventory is overstated.
Hi_2	Some sales were recorded but goods were not shipped.
Hi_1 & Lo_1	Both (a) interest expense decreased significantly, and (b) ending inventory was overstated.
Lo_1	Interest expense decreased significantly
Hi_1 & Hi_2	Both (a) some sales were recorded but goods were not shipped, and (b) ending inventory was overstated.
Lo_1 & Lo_2	Both (a) interest expense decreased significantly, and (b) recorded depreciation declined as a percentage of sales.
Lo_2	Recorded depreciation declined as a percentage of sales.

In the DIAGNOSIS part, subjects were asked, "Given the gross margin percentage has increased from 31.8 in 1986 to 39.4 in 1987, the probability that some sales were recorded but goods were not shipped is...". The response scale ranged from 0 (no chance that the event or condition occurred) to 1.0 (completely certain that the event or condition occurred). Research in psychology has shown that people's assessments of conjunctive explanations are affected by the general level of plausibility of constituent events.[22] Specifically, people are more likely to have a single error when a conjunction includes one likely event and one unlikely event (labeled hereafter as the "Hi–Lo" condition) and a double error when a conjunction includes both likely events (labeled hereafter as the "Hi–Hi" condition). People conform to the conjunction rule more often when both events are unlikely (labeled hereafter as the "Lo–Lo" condition).

In the PREDICTION part, subjects were presented with the industry averages and the hypothetical company's gross margin percentages for the previous three years (1984, 1985, 1986). Then, subjects were asked, "Given that the hypothetical company has some sales recorded but goods were not shipped, the probability that there is a gross margin increase in 1987 of about 24 percent is ...". The response scale ranged from 0 (no chance) to 1.0 (completely certain).

Medical Case

A brief lung cancer case was provided to the subjects. As in the audit case, subjects were asked to make either a diagnosis first or a prediction first. Seven items were presented:

Plausibility	*Events*
Hi_1:	Has been smoking for twenty years.
Hi_2:	Is a construction worker who received extensive exposure to asbestos in a job twenty years ago.
Hi_1 & Lo_1:	Is both overweight, and has been smoking over twenty years.

Lo_1:	Is overweight.
Hi_1 & Hi_2	Is both a construction worker who received extensive exposure to asbestos in a job twenty years ago and has been smoking over twenty years.
Lo_1 & Lo_2:	Is both left-handed and overweight.
Lo_2:	Is left-handed.

In the DIAGNOSIS part, for example, subjects were asked, "Given John Doe was found to have lung cancer, the probability that he has been smoking over twenty years is ...". The rating ranged from 0 (no chance) to 1.0 (completely certain). In the PREDICTION part, for example, subjects were asked, "Given the information that a male has been smoking over twenty years, the probability that he has lung cancer is ...". The rating ranged from 0 (no chance) to 1.0 (completely certain).

Subjects

Ho and Keller[5] used 76 seniors in-charge from an American multinational public accounting firm; the mean auditing experience of these auditors is 3.2 years. For comparison, 51 experienced Taiwanese auditors, ranking from seniors in-charge to partners, participated in the study; all were from four Taiwanese public accounting firms affiliated with US Big Six and had a mean of 3.5 years of auditing experience. The instrument used in Ho and Keller[5] was carefully translated into Chinese. To facilitate communication and minimize misunderstanding, the questionnaire first was translated by one bilingual person with auditing knowledge and then the translation was verified by another bilingual person with a similar auditing background. The instrument booklets were distributed by firm partners.

For less experienced subjects, Ho and Keller[5] used 83 MBA students who had finished a financial accounting course and were taking a management accounting course. Our student subjects were 101 Taiwanese undergraduate students who had completed both financial and managerial accounting courses.[23] As did the American students, Taiwanese students completed the questionnaires in classroom settings and had plenty of time to respond.

Variables

One set of variables includes the probabilities stated by the subjects for various elemental and conjunctive events. Another set of variables indicates whether or not conjunction errors occur in each conjunctive judgment made by a subject.

Data Analysis and Results

Manipulation Check of Plausibility of Events

In the audit case, Ho and Keller reported a successful manipulation of the plausibilities of events listed in their instrument for the auditor group. In the medical case, the

manipulation of plausibilities of events was very successful for both auditor and student groups. Table 1 summarizes, by nationality and by experience, the probability judgments made in both the audit and the medical cases. Similar to what was found in Ho and Keller, the Taiwanese auditors, on average, judged the probabilities of the assumed higher probability events to be greater than those of the assumed lower probability events, in both the audit and medical cases. For example, in the audit case, Taiwanese auditors assessed the two higher plausibility events (Hi_1, Hi_2) with means of 0.62 and 0.60, and assessed the two lower plausibility events (Lo_1, Lo_2) with means of 0.32 and 0.33. In the medical case, the means for the two higher plausibility events of Taiwanese auditors were 0.71 and 0.71, and for the two lower plausibility events their means were 0.18 and 0.29.

American students, on the other hand, had problems distinguishing the high plausibility causes from the low plausibility causes in the audit case but not in the medical case. In contrast to American students, Taiwanese students did better in distinguishing the high plausibility causes from the low plausibility causes in the audit case, i.e. their means or the two higher plausibility events were 0.57 and 0.52, and those of the two lower plausibility events were 0.44 and 0.36. Also, the Taiwanese students, on average, judged the probabilities of the assumed higher plausibility events to be greater than those of the assumed lower plausibility events in the medical case (0.79 and 0.73 vs. 0.33 and 0.38).

Conformance with the Conjunction Rule Across Plausibility Levels

For comparison purposes, the numbers and percentages of American and Taiwanese auditors' judgment behavior by plausibility and inference order observed in both the audit and medical cases are shown in Tables 2a and 2b. The data in these tables can be averaged across inference orders to examine whether people's conformity with the conjunction rule depends on the plausibility levels of the events. As seen from Table 2a and 2b, both American and Taiwanese auditors had the highest percentage of double errors when both individual events had high plausibility. They had the highest percentage of single errors in the Hi–Lo condition, and they correctly tended to rate the conjunction as less likely than either cause when both causes in a conjunction had low plausibility. These judgment behaviors were observed in both the audit case and the medical case. Our findings support what has been reported in psychology studies using a within-subject design.

Diagnostic Probability Judgments

As seen from Panel A of Table 1, in the audit context there are no statistically significant differences between American and Taiwanese auditors' diagnostic probability judgments, except in one conjunction condition (Hi–Lo). However, when comparing the diagnostic probability judgments of auditors with those of students, quite apparent differences in their judgments are observed. For example, in five of the seven conditions, American auditors' probability judgments were significantly different from those of American students. Also, Taiwanese auditors' probability judgments differed from those of Taiwanese students. These results lead us to support

Table 1. Summary of probability judgments by nationality and by experience

	Auditor			Student			US			Taiwan		
	US	TWN	*P*	US	TWN	*P*	Auditor	Student	*P*	Auditor	Student	*P*
Panel A: Audit case												
$p(\mathrm{Hi}_1 \mid S)$	0.62	0.62	0.821	0.45	0.57	0.001	0.62	0.45	0.000	0.62	0.57	0.171
$p(\mathrm{Hi}_2 \mid S)$	0.61	0.60	0.781	0.46	0.52	0.124	0.61	0.46	0.000	0.60	0.52	0.038
$p(\mathrm{Lo}_1 \mid S)$	0.31	0.32	0.690	0.45	0.44	0.803	0.31	0.45	0.000	0.32	0.44	0.002
$p(\mathrm{Lo}_2 \mid S)$	0.39	0.33	0.254	0.45	0.36	0.006	0.39	0.45	0.110	0.33	0.36	0.576
$p(\mathrm{Hi}_1\ \&\ \mathrm{Hi}_2 \mid S)$	0.64	0.67	0.428	0.48	0.58	0.007	0.64	0.48	0.000	0.67	0.58	0.021
$p(\mathrm{Hi}_1\ \&\ \mathrm{Lo}_1 \mid \mathrm{S})$	0.43	0.54	0.015	0.44	0.49	0.115	0.43	0.44	0.793	0.54	0.49	0.255
$p(\mathrm{Lo}_1\ \&\ \mathrm{Lo}_2 \mid S)$	0.34	0.38	0.324	0.47	0.41	0.054	0.34	0.47	0.001	0.38	0.41	0.589
Panel B: Medical case												
$p(\mathrm{Hi}_1 \mid S)$	0.64	0.71	0.061	0.63	0.79	0.000	0.64	0.63	0.681	0.71	0.79	0.017
$p(\mathrm{Hi}_2 \mid S)$	0.41	0.71	0.000	0.38	0.73	0.000	0.41	0.38	0.512	0.71	0.73	0.533
$p(\mathrm{Lo}_1 \mid S)$	0.29	0.18	0.000	0.36	0.33	0.846	0.29	0.36	0.535	0.18	0.33	0.142
$p(\mathrm{Lo}_2 \mid S)$	0.33	0.29	0.210	0.33	0.38	0.091	0.33	0.33	0.997	0.29	0.38	0.013
$p(\mathrm{Hi}_1\ \&\ \mathrm{Hi}_2 \mid S)$	0.46	0.77	0.000	0.41	0.79	0.000	0.46	0.41	0.350	0.77	0.79	0.546
$p(\mathrm{Hi}_1\ \&\ \mathrm{Lo}_1 \mid S)$	0.54	0.66	0.004	0.52	0.69	0.000	0.54	0.52	0.736	0.66	0.69	0.533
$p(\mathrm{Lo}_1\ \&\ \mathrm{Lo}_2 \mid S)$	0.26	0.21	0.142	0.21	0.26	0.036	0.26	0.21	0.052	0.21	0.26	0.117

Table 2a. Observed numbers and percentages of American auditors' judgment behavior by plausibility and by inference order

	Plausibility								
	Hi–Hi			Hi–Lo			Lo–Lo		
Inference Order	Diagnosis First	Prediction First	Overall	Diagnosis First	Prediction First	Overall	Diagnosis First	Prediction First	Overall
Panel A: Audit case									
Conformity	24 (63.2%)	13 (35.2%)	37 (49.3%)	15 (39.5%)	7 (18.9%)	22 (39.4%)	25 (65.8 %)	10 (27.0%)	35 (46.7%)
Single conjunction error	7 (18.4%)	8 (21.6%)	15 (20.0%)	22 (57.9%)	23 (62.2%)	45 (60.0%)	11 (28.9%)	19 (51.4%)	30 (40.0%)
Double conjunction error	7 (18.4%)	16 (43.2%)	23 (30.7%)	1 (2.6%)	7 (18.9%)	8 (10.7%)	2 (5.3%)	8 (21.6%)	10 (13.3%)
Total	38 (100.0%)	37 (100.0%)	75 (100.0%)	38 (100.0%)	37 (100.0%)	75 (100.0%)	38 (100.0%)	37 (100.0%)	75 (100.0%)
Panel B: Medical Case									
Conformity	23 (60.5%)	19 (50.0%)	42 (55.3%)	12 (31.6%)	8 (21.1%)	20 (26.3%)	25 (65.8%)	24 (63.2%)	49 (64.5%)
Single conjunction error	8 (21.1%)	10 (26.3%)	18 (23.7%)	21 (55.3%)	23 (60.5%)	44 (57.9%)	11 (28.9%)	10 (26.3%)	21 (27.6%)
Double conjunction error	7 (18.4%)	9 (23.7%)	16 (21.0%)	5 (13.2%)	7 (18.4%)	12 (5.8%)	2 (5.3%)	4 (10.5%)	6 (7.9%)
Total	38 (100.0%)	38 (100.0%)	76 (100.0%)	38 (100.0%)	38 (100.0%)	76 (100.0%)	38 (100.0%)	38 (100.0%)	76 (100.0%)

Table 2b. Observed numbers and percentages of Taiwanese Auditors' Judgment behavior by plausibility and by inference order

	Plausibility								
	Hi–Hi			Hi–Lo			Lo–Lo		
Inference Order	Diagnosis First	Prediction First	Overall	Diagnosis First	Prediction First	Overall	Diagnosis First	Prediction First	Overall
Panel A: Audit case									
Conformity	12 (50.0%)	7 (25.9%)	19 (37.25%)	6 (25.0%)	3 (11.1%)	9 (17.7%)	7 (29.2%)	6 (22.2%)	13 (25.5%)
Single conjunction error	7 (29.2%)	6 (22.2%)	13 (25.5%)	16 (66.7%)	16 (59.3%)	32 (62.7%)	10 (41.7%)	16 (59.3%)	26 (51.0%)
Double conjunction error	5 (20.8%)	14 (51.9%)	19 (37.25%)	2 (8.3%)	8 (29.6%)	10 (19.6%)	7 (29.2%)	5 (18.5%)	12 (23.5%)
Total	24 (100.0%)	27 (100.0%)	51 (100.0%)	24 (100.0%)	27 (100.0%)	51 (100.0%)	24 (100.0%)	27 (100.0%)	51 (100.0%)
Panel B: Medical case									
Conformity	6 (27.3%)	7 (25.9%)	13 (26.5%)	5 (22.7%)	2 (7.4%)	7 (14.3%)	12 (54.5%)	20 (74.1 %)	32 (65.3%)
Single conjunction error	3 (13.6%)	10 (37.0%)	13 (26.5%)	10 (45.5%)	19 (70.4%)	29 (59.2%)	8 (36.4%)	5 (18.5%)	13 (26.5%)
Double conjunction error	13 (59.1%)	10 (37.0%)	23 (47.0%)	7 (31.8%)	6 (22.2%)	13 (26.5%	2 (9.1%)	2 (7.4%)	4 (8.2%)
Total	22 (100.0%)	27 (100.0%)	49 (100.0%)	22 (100.0%)	27 (100.0%)	49 (100.0%)	[illegible]	[illegible]	[illegible]

the hypothesis that in the professional setting, people's probability judgments are more influenced by experience-related knowledge than by national culture.

According to Panel B of Table 1, in the medical context American auditors' diagnostic probability assessments differed significantly from those of Taiwanese auditors. Consistent with Wright and Philips' (1980) finding, our Taiwanese subjects are more likely to use extreme probabilities. For example, given that the target has lung cancer, Taiwanese auditors rated the likelihood that the target has been smoking over twenty years higher (0.71) than did American auditors (0.64); the difference is statistically significant (t=1.90, p<0.061). Furthermore, Taiwanese auditors, given that the target has lung cancer, assessed the probability that he is a construction worker who received extensive exposure to asbestos in a job twenty years ago much higher (0.71) than did their American counterparts (0.41). This difference is also statistically significant (t=7.11, p<0.0001). Similar observations can be made when American and Taiwanese students' probability judgments are compared. For example, Taiwanese students, given that the target has lung cancer, assessed the probability that he has been smoking over twenty years much higher (0.79) than did American students (0.63) (t=5.58, p<0.0001). Besides, Taiwanese students consider it is more likely (0.73) that the target, given he has lung cancer, is a construction worker who received extensive exposure to asbestos than do their American counterparts (0.38). This difference is, again, statistically significant (t=9.64, p<0.0001).

Interestingly, when the probability judgments of auditors and students within the same culture were compared, we observed that American auditors and American students made similar diagnostic probability judgments in almost all the conditions. Also, Taiwanese auditors and Taiwanese students made similar judgments in most conditions (five out of seven conditions). These observations allow us to conclude that people in generic contexts where they have no experience-related knowledge make probability judgments that clearly are affected by their national cultures. This result is consistent with findings in previous cross-cultural studies using subjects working on generic tasks.

Inference Order Effect on Conjunction Probability Assessments

Ho and Keller[5] reported that, in the audit case, American auditors' diagnostic judgments of the conjunctive events were significantly affected by whether the prediction or the diagnosis was presented first in each of the three plausibility levels. In the medical case, however, American auditors' diagnostic judgments of the conjunctive events were not influenced by the inference order effect at all. Also, American students were not influenced by the inference order in making diagnoses in either the audit or the medical case. Following Ho and Keller's approach, the inference order effect for the Taiwanese subjects was examined by comparing the differences in assessments under the two inference orders for the probability of diagnostic conjunction events [$P(X_1 \cap X_2|S)$]. The S represents the background signal or effect (e.g., the gross margin ratio increases) and X_1 and X_2 represent two possible events enabling the signal S (e.g., ending inventory is overstated). Both American and Taiwanese auditors' diagnostic conjunction judgments by inference directions are presented in Table 3a.

As seen from Panel B of Table 3a, in contrast to American auditors who were influenced by the inference order only in the audit case, Taiwanese auditors were not influenced in their conjunction probability judgments by the inference order for any of the three plausibility levels in either the audit or the medical case. Consistent with Ho and Keller's finding that American students' conjunction probability

Table 3a. Comparison of auditors' diagnostic conjunction judgments

	Plausibility of events		Inference direction: Diagnosis first	Inference direction: Prediction first			
Case	X_1	X_2	Average $P(X_1 \cap X_2 \mid S)$	Average $P(X_1 \cap X_2 \mid S)$	F	P	Significant difference?
Panel A: American auditors							
Audit	Hi_1	Hi_2	0.59	0.69	$F(1,73)=3.878$	0.05	Yes
	Hi_1	Lo_1	0.36	0.52	$F(1,73)=10.720$	0.002	Yes
	Lo_1	Lo_2	0.28	0.40	$F(1,73)=5.100$	0.03	Yes
Medical	Hi_1	Hi_2	0.43	0.49	$F(1,74)=0.799$	0.37	No
	Hi_1	Lo_1	0.51	0.57	$F(1,74)=1.525$	0.22	No
	Lo_1	Lo_2	0.25	0.27	$F(1,74)=0.215$	0.64	No
Panel B: Taiwanese auditors							
Audit	Hi_1	Hi_2	0.64	0.70	$F(1,49)=0.927$	0.34	No
	Hi_1	Lo_1	0.51	0.57	$F(1,49)=0.754$	0.39	No
	Lo_1	Lo_2	0.36	0.40	$F(1,49)=0.304$	0.58	No
Medical	Hi_1	Hi_2	0.79	0.76	$F(1,47)=0.223$	0.64	No
	Hi_1	Lo_1	0.61	0.71	$F(1,47)=1.852$	0.18	No
	Lo_1	Lo_2	0.24	0.19	$F(1,47)=1.019$	0.32	No

S represents background signal effect

Table 3b. Comparison of students' diagnostic conjunction judgments

	Plausibility of events		Inference direction: Diagnosis first	Inference direction: Prediction first			
Case	X_1	X_2	Average $P(X_1 \cap X_2 \mid S)$	Average $P(X_1 \cap X_2 \mid S)$	F	P	Significant Difference?
Panel A: American students							
Audit	Hi_1	Hi_2	0.48	0.48	$F(1,81)=0.007$	0.93	No
	Hi_1	Lo_1	0.41	0.47	$F(1,81)=1.410$	0.24	No
	Lo_1	Lo_2	0.46	0.48	$F(1,81)=0.141$	0.71	No
Medical	Hi_1	Hi_2	0.46	0.36	$F(1,81)=2.291$	0.13	No
	Hi_1	Lo_1	0.56	0.48	$F(1,81)=1.787$	0.19	No
	Lo_1	Lo_2	0.21	0.20	$F(1,81)=1.60$	0.69	No
Panel B: Taiwanese students							
Audit	Hi_1	Hi_2	0.58	0.59	$F(1,100)=0.036$	0.85	No
	Hi_1	Lo_1	0.66	0.51	$F(1,100)=0.578$	0.45	No
	Lo_1	Lo_2	0.39	0.63	$F(1,100)=1.601$	0.21	No
Medical	Hi_1	Hi_2	0.80	0.79	F(1,96)=0.082	0.78	No
	Hi_1	Lo_2	0.66	0.72	$F(1,97)=2.337$	0.13	No
	Lo_1	Lo_2	0.27	0.26	$F(1,97)=0.009$	0.93	No

S represents background signal effect.

judgments were not influenced by the inference order in both the audit and medical cases, no inference order effect on Taiwanese students' conjunction probability judgments was observed in either case. This comparison is shown in Table 3b.

Further Examination of Inference Order Effect

Unlike the American auditors whose diagnostic conjunction probability judgments in the audit case were influenced by the inference order, Taiwanese auditors were not affected in either the audit case or the medical case by whether they were asked to make predictions prior to assessing the diagnostic conjunction probabilities. Here, we examine this inference order effect further by comparing predictive versus diagnostic judgments involving conjunctions. Table 4 presents comparisons between American and Taiwanese auditors' diagnostic and predictive conjunction judgments in both audit and medical cases. Such a comparison may provide insight about whether these auditors anchored on the prediction $[P(S|X_1 \cap X_2)]$ and did not adjust sufficiently when making the diagnosis. For example, if the auditors did use the anchoring-adjustment heuristic, we would expect little or no difference between $[P(X_1 \cap X_2|S)]$ and $[P(S|X_1 \cap X_2)]$, even though, in general, the true probabilities would, of course, be different.

As seen from Panel A of Table 4, in the audit case, when American auditors made diagnoses first, there was a significant difference between the diagnosis $[P(X_1 \cap X_2|S)]$ and the subsequent prediction $[P(S|X_1 \cap X_2)]$ in all three plausibility levels. Such a difference is normatively expected. However, when auditors made predictions first, there was no significant difference between the prediction, $[P(S|X_1 \cap \mathrm{X}_2)]$, and the corresponding diagnosis, $[P(X_1 \cap \mathrm{X}_2|S)]$, in any of the three plausibility levels. It is possible that American auditors may have anchored on their predictive judgments and insufficiently adjusted. In the medical case, there was a significant difference between American auditors' diagnostic and predictive judgments in both inference orders for Hi–Hi and Hi–Lo plausibility levels. By contrast, Panel B of Table 4 reveals that, in general, there are no significant differences between Taiwanese auditors' predictions, $[P(\mathrm{S}|\mathrm{X}_1 \cap X_2)]$ and their corresponding diagnoses, $[P(X_1 \cap \mathrm{X}_2|S)]$ in most conditions of both audit and medical cases. That is, in making diagnoses, they may have anchored on their predictive judgments and insufficiently adjusted. Also, in making predictions, they may have anchored on their diagnoses and insuffciently adjusted. The lack of differences between predictions and diagnoses is a sign that the norms of probability are being violated. Recall that, in the audit case, Taiwanese and American auditors had very similar probability judgments. It therefore leads us to conclude that Taiwanese and American auditors use different judgment processes in assessing probabilities.

General Discussion and Conclusion

In this study, we have explored the effect of national culture and experience-related knowledge on auditors' diagnostic probability judgments in both the audit and the medical contexts. The results show that in the audit context where auditors have

Table 4. Comparison of auditors' diagnostic versus predictive judgments

	Plausibility of events		Inference direction: Diagnosis first			Inference direction: Prediction first		
Case	X_1	X_2	Average Diagnosis $P(X_1 \cap X_2 \mid S)$	Average prediction $P(S \mid X_1 \cap X_2)$	Significant difference? (p)	Average diagnosis $P(X_1 \cap X_2 \mid S)$	Average prediction $P(S \mid X_1 \cap X_2)$	Significant difference?(p)
Panel A: American auditors								
Audit	Hi_1	Hi_2	0.59	0.70	Yes (0.04)	0.69	0.62	No (0.10)
	Hi_1	Lo_1	0.36	0.51	Yes (0.000)	0.52	0.55	No (0.45)
	Lo_1	Lo_2	0.28	0.35	Yes (0.07)	0.40	0.42	No (0.50)
Medical	Hi_1	Hi_2	0.43	0.73	Yes (0.000)	0.49	0.77	Yes (0.000)
	Hi_1	Lo_1	0.51	0.63	Yes (0.006)	0.57	0.69	Yes (0.004)
	Lo_1	Lo_2	0.25	0.24	No (0.21)	0.27	0.27	No (0.96)
Panel B: Taiwanese auditors								
Audit	Hi_1	Hi_2	0.64	0.73	Yes (0.027)	0.70	0.72	No (0.446)
	Hi_1	Lo_1	0.51	0.59	No (0.157	0.57	0.58	No (0.795)
	Lo_1	Lo_2	0.36	0.40	No (0.396)	0.40	0.35	Yes (0.073)
Medical	Hi_1	Hi_2	0.79	0.81	No (0.41)	0.75	0.83	No (0.16)
	Hi_1	Lo_1	0.61	0.64	No (0.48)	0.71	0.72	No (0.80)
	Lo_1	Lo_2	0.24	0.20	Yes (0.03)	0.19	0.16	No (0.43)

S represents background signal or effect.

experience-related knowledge, it is the professional knowledge, not the national culture, that plays a dominant role in auditors' diagnostic probability judgments. However, in the medical context where neither the auditor nor student subjects have experience-related knowledge, national culture clearly influences their diagnostic probability judgments.

Prior studies have documented that culture is an important variable in decision-making processes and that culture affects people's probability judgments. The results in the medical case of this study show that people's probability judgments are strongly influenced by their national culture. That is, within the same culture auditors' mean probability judgments were very similar to those of students. Between cultures, however, subjects had quite different probability assessments. Part of these differences in probability judgments could be caused by different base rates across ethnic groups. We partly attribute such base rate differences to the differences in two countries' social culture and education systems (e.g., government propaganda, education program and media coverage).

In the audit context, however, mean probability judgments of American and Taiwanese auditors are very similar to each other, thus, the national culture effect observed in the medical case is mitigated by their professional standards and experience-related knowledge. In this study, our Taiwanese auditors were from the Taiwanese public accounting firms affiliated with the US Big Six. Prior to joining their firms, all of the Taiwanese auditors had undergone education requirements similar to that of the American auditors. After joining their firms, Taiwanese auditors also had similar professional training and continuing professional education as those of the American auditors. Furthermore, the Taiwanese accounting and auditing profession strictly adheres to the GAAP, SAS, and other regulations and standards promulgated in the United States. The effects of national culture are diminished greatly by such a strong "firm" or "profession" culture.

Ho and Keller[5] reported that the diagnostic probability judgments of American auditors in the audit context were strongly influenced by whether they had been asked in advance to make a prediction. That is, when auditors are familiar with the task, they may fail to separate the implications of two modes of inferences and stumble into mental traps that may yield bad judgments. While both auditor groups arrived at similar final probability assessments, they apparently used quite different judgment processes. In contrast to American auditors, Taiwanese auditors were not influenced in their diagnoses by the inference order. At this point, it may appear that Taiwanese auditors are superior to American auditors in separating the implications of two modes of inferences. But, after a further examination, we conclude the opposite: the inference order effect may not have affected the Taiwanese auditors simply because they had trouble distinguishing the diagnoses from predictions in both cases. While the American auditors only failed to separate the two inference modes when they were asked to make predictions before making diagnoses, the Taiwanese auditors had trouble distinguishing these two inference modes no matter whether they were asked to make a prediction first or a diagnosis first. One possible explanation is that auditors with different cultural backgrounds have different causal links in their judgment processes; therefore, they may reach similar judgments by using different logic links in the judgment processes.

Swidler[20] suggests, "people do not build lines of actions from scratch, choosing actions one at a time as efficient means to given ends. Instead, they construct chains of action beginning with at least some pre-fabricated links. Culture influences action through the shape and organization of those links, not by determining the ends to which they are put." Other comparative studies also note that culture provides a collective "repertoire" or "tool kit" of habits, styles, and rules for problem solving.[24] More research is needed to explore whether professionals in the same field but with different cultural backgrounds do actually use different judgment processes, cognitive styles, and approaches in making decisions.

In the past decade, behavioral research has addressed issues in decision making and judgment by focusing on Western culture, especially that of the United States. The advantages of globalization of the accounting and auditing profession are receiving growing attention in the international community; hence there is an increasingly important need to enhance our understanding of auditors' diagnostic probability judgments in different cultures by making cross-cultural comparisons. In this study, it is very encouraging to observe that, in the audit case, professional knowledge, not the national culture, plays a more dominant role in auditors' diagnostic conjunction judgments. To understand better the influence of national culture on auditors' judgments and to assess effectively potential outcomes of enhancing standardization of the accounting and auditing standards in the international community, more research is needed.

Notes

1. For example, D.K. Tse, R.W. Belk and N. Zhou, "Becoming a Consumer Society: A Longitudinal and Cross-Cultural Content Analysis of Print Advertisements from Hong Kong, People's Republic of China, and Taiwan." *Journal of Consumer Research* (March 1989), 457–472; D.K. Tse, K. Lee, I. Vertinsky and D.A. Wehrung, "Does Culture Matter? A Cross-Cultural Study of Executives' Choice, Decisiveness, and Risk Adjustment in International Marketing." *Journal of Marketing* (October 1988), 81–95.
2. A. Laurent, "The Cross-Cultural Puzzle of International Human Resources Management." *Human Resource Management* (1986), 91–102.
3. For example, G. Wright and L.D. Philips, "Cultural Variation in Probabilistic Thinking: Alternative Ways of Dealing with Uncertainty." *International Journal of Psychology* (1980), 239–257; F. Yates, Y. Zhu, D.L. Ronis, D. Wang, H. Shinotsuka and M. Toda, "Probability Judgment Accuracy: China, Japan and the United States." *Organizational Behavior and Human Decision Processes* (1989), 145–171.
4. H.J. Einhorn and R.M. Hogarth, "Decision Making: Going Forward in Reverse." *Harvard Business Review* (January–February 1987), 66–70.
5. J.L. Ho and L.R. Keller, "The Effect of Inference Order and Experience Related Knowledge on Diagnostic Conjunction Probabilities." *Organizational Behavior and Human Decision Processes* (forthcoming 1994).
6. Compare E.J. Johnson and J.E. Russo, "Product Familiarity and Learning New Information." *Journal of Consumer Research* (June 1984), 542–550; W.G. Chase and H.A. Simon, "The Mind's Eye in Chess." In *Visual Information Processing*, edited by W.G. Chase (New York: Academic Press, 1973).
7. For example, M. Abdolmohammadi and A. Wright, "An Examination of the Effects of Experience and Task Complexity on Audit Judgments." *Accounting Review* (April 1987), 1–13; S.E. Bonner, "Experience Effects in Auditing: The Role of Task-Specific Knowledge." *Accounting Review* (January 1990), 72–92.
8. D. Frederick and R. Libby, "Expertise and Auditors' Judgments of Conjunctive Events." *Journal of Accounting Research* (1986), 270–290.
9. R. Libby and D. Frederick, "Experience and the Ability to Explain Audit Findings." *Journal of Accounting Research* (1990), 348–367.

10. For a review, see J.F. Smith and T. Kida, "Heuristic and Biases: Expertise and Task Realism in Auditing." *Psychological Bulletin* (1991), 472–489.
11. M. Gibbins. "Propositions about the Psychology of Professional Judgments in Public Accounting." *Journal of Accounting Research* (1984), 103–125.
12. J.V. Bedard, "Expertise in Auditing: Myth or Reality?" *Accounting, Organizations and Society* (1989), 113–131; W.S. Waller and W.L. Felix, "Cognition and the Auditor's Opinion Formulation Process: A Schematic Model of Interactions Between Memory and Current Audit Evidence." In *Decision Making and Accounting: Current Research*, edited by S. Moriarty and E. Joyce (Norman, OK: University of Oklahoma, 1984) 27–48.
13. Compare S.E. Bonner and B.L. Lewis, "Determinants of Auditor Expertise." *Journal of Accounting Research* (Suppl. 1990), 1–20; W.S. Waller and W.L. Felix, "Auditors' Casual Judgments: Effects of Forward vs. Backward Inference on Information Processing." *Accounting, Organizations and Society* (1989), 83–99.
14. Sufficiency means that even X must occur when effect E occurs, and necessity means that event X cannot occur when effect E does not.
15. A. Swidler, "Culture in Action: Symbols and Strategies." *American Sociological Review* (April 1986), 273–286 (quote from p. 277).
16. H.C. Triandis, *Handbook of Cross-Cultural Psychology* (Boston: Allyn & Bacon, 1980).
17. S. Arieti, "Manic-Depressive Psychosis." In *American Handbook of Psychiatry*, Vol. I (New York: Basic Book, 1959), 419–454.
18. See Waller and Felix cited in note 13.
19. J.L. Ho and R. May, "Auditors' Causal Probability Judgments in Analytical Procedure for Audit Planning." *Behavioral Research in Accounting* (January 1993), 79–100.
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23. Unlike the MBA programs in the United States, the MBA programs in all the Taiwanese universities are very small, e.g. most admit only 15–30 students a year. Therefore, in this study, we had to use undergraduate students to compare with American students used in Ho and Keller.
24. U. Hannerz, *Soulside: Inquiries into Ghetto Culture and Community* (New York: Columbia University Press, 1969); F.J. Yates and W. Carlson, "Conjunction Errors: Evidence for Multiple Judgment Accuracy, Including 'Signed Summation'." *Organizational Behavior and Human Decision Processes* (1986), 230–253.

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An Internationally Relevant, Alternative Price-Oriented Concept of Market Efficiency

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Key words: *Accounting theory; Information; Market efficiency*

Abstract: *Beaver (1981a) introduced price-oriented concepts of market information efficiency which are meant to facilitate the construction of a theory of market efficiency. His concepts have their origin in a hypothesized diversification effect which, if present, may produce an equivocal level of aggregate-market sophistication. This article identifies several problems with Beaver's concepts related to their failure to ensure aggregate-market sophistication, develops a price-oriented concept of aggregate-market sophistication, and integrates this concept and Beaver's concept of y-efficiency. The result is an internationally relevant, price-oriented concept of market information efficiency which eliminates the difficulties with Beaver's concepts.*

Introduction

Both the international and the US accounting literature contain numerous references to the concept of market information efficiency. There also is a growing body of literature investigating, or relying on, the efficiency of markets other than those of the US (see, for example, the recent studies of Kamarotou and O'Hanlon, 1989; Ko and Lee, 1991; Lee, 1992; Brailsford, 1992; Watt et al., 1992; MacDonald and Power, 1992; Walmsley et al., 1992; Brookfield and Morris, 1992; Pope and Inyangete, 1992). This concept is important because (1) it has a variety of substantive implications for international and US accounting policy/practice and investors and (2) it constitutes a societal desideratum in general (for further discussion, see Dyckman and Morse, 1986). Given the international importance of this concept, many definitions of market information efficiency have been offered. For example, Fama (1970, 1976) and others (e.g., Jensen, 1978) provide non-price-oriented definitions of this concept.

The non-price-oriented definitions of market information efficiency are poorly specified and, consequently, fail to provide an adequate basis for constructing a theory of market information efficiency and for interpreting related empirical work (see, for example, Beaver, 1981a; Latham, 1986; Dyckman and Morse, 1986; Strong

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and Walker, 1987: Lundholm, 1991). Beaver (1981a) introduced price-oriented concepts of market information efficiency which are meant to aid in eliminating these problems. His concepts have their genesis in a hypothesized diversification effect which, if present, may produce an equivocal level of aggregate-market sophistication.

The purpose of this article is twofold. First, it shows that Beaver's concepts fail to guarantee aggregate-market sophistication and, consequently, can lead to deleterious results in judging the information efficiency of market mechanisms. This result is important since its implies that Beaver's concepts may have only limited potential for mitigating the problems noted above. The second goal is to identify a new price-oriented concept of market information efficiency, which ensures aggregate-market sophistication, and, thus, is capable of eliminating the difficulties with Beaver's concepts. The operationalization of this concept would facilitate the construction of a theory of market information efficiency applying internationally and the interpretation of related empirical studies.

The remainder of the article is organized as follows. The next section considers the historical relationship between market information efficiency and aggregate-market sophistication and shows that these two concepts often are closely linked. The third section describes Beaver's price-oriented concepts, while the fourth identifies the difficulties with his concepts. The fifth section introduces and discusses the new price-oriented concept. The last section provides a summary and final observations.

Market Efficiency and Aggregate-Market Sophistication: Historical Perspective

Historically, most authors who have written on market information efficiency have argued implicitly or explicitly that this concept and some types of aggregate-market sophistication are closely related concepts. For example, many authors indicate that one implication of market information efficiency is that the market is not fooled by differences in accounting methods. Comments of this type are meant to imply that the market is sophisticated, in some aggregate sense, in ignoring (i.e., in "seeing through") the cosmetic facets of alternative accounting techniques. For example, Archibald (1972), says:

> Economists would recognize that the change in reporting method may convey information that might be deemed relevant to the assessment of future earnings. Any illusion about earnings prospects created by the numbers themselves, however, should be "seen through" by the market as a whole, even though individual investors may be misled. This position will be referred to as the *efficient market hypothesis*.

Similarly, aggregate-market sophistication often is implicit in phrases such as "the information set that is fully reflected in security prices." That is, this type of phrase usually is interpreted as meaning, among other things, that the information set has been utilized in setting prices which reflect some level of aggregate-market sophistication.

Authors who have written on market information efficiency also often posit that the sophistication of an efficient market is a consequence of the actions of a sophisticated set of experts. For example, Beaver (1973) says:

The formal research in this area is remarkably consistent in finding that the market, at least as manifested in the way in which security prices react, is quite sophisticated in dealing with financial statement data. One rationale for the observed sophistication of security prices is that the professional investors "make the market" and competitive bidding among one another for securities effectively makes the prices behave in such a manner that they reflect a considerable amount of sophistication. In any event, regardless of what the actual causal mechanism may be, there is considerable evidence that security prices do in fact behave in a sophisticated fashion. In the terminology of this literature, the securities market is said to be "efficient" with respect to financial statement data.

Subsequently, Beaver comments on the meaning of the word sophistication as it applies in the context of the early studies which deal with, or rely on, the concept of market information efficiency (e.g., Archibald, 1972; Comiskey, 1971). Beaver (1981a) says "the term *sophistication* ... means that prices act as if every one has access to an information system that includes accounting 'expertise' (e.g., knowledge of depreciation methods, their impact on earnings, tax implications, etc.)".

Thus, from the historical perspective, market information efficiency and some concept of aggregate-market sophistication frequently are viewed as being tightly linked. Furthermore, the above discussion reveals that Beaver subscribes to this linkage and conceives of aggregate-market sophistication as implying that prices reflect more knowledge than is possessed by some, and possibly most, individuals in the market. As shown below, this sort of thinking persists in his price-oriented concepts, although they do not guarantee aggregate-market sophistication.

Beaver's Price-Oriented Concepts of Market Efficiency

Beaver (1981a) provides an interesting discussion of market information efficiency and appealing price-oriented definitions of y-type and η-type market efficiency (where the latter holds for an information system if, and only if, the former holds for all signals from the system). As indicated, an important reason for developing precise definitions of these concepts is to attempt to provide a solid foundation for constructing a theory of market efficiency and for interpreting related studies. However, as shown later, this article implies that Beaver's concept of y-efficiency (and, consequently, his concept of η-efficiency) leads to conceptual difficulties since it fails to guarantee aggregate-market sophistication. For now, it is important to clarify the relationship between y-efficiency and aggregate-market sophistication.[1]

Beaver (1981a) conceives of market information efficiency as a property of market mechanisms by which prices are set and defines y-efficiency as follows:

A securities market is efficient with respect to a signal y_t' if and only if the configuration of security prices $\{P_{jt}\}$ is the same as it would be in an otherwise identical economy (i.e., with an identical configuration of preferences and endowments) except that every individual receives y_t' as well as y_{it}.[2]

In this definition, y_t' is a signal from η_t' (the information system related to the market about which the efficiency judgment is being made); y_{it} is a signal from individual i's personal information system (η_{it} which may be null); and $\{P_{jt}\}$ is the set of prices for the J real-world securities. $\{P_{jt}\}$ results from the receipt of the set of signals (y_{it}) by the I individuals in the economy and usually by the receipt of y_t' by some of these

individuals. As just implied, y_t' is not necessarily received by every (or any) individual in the market under consideration for one reason or another (e.g., cost or lack of individual sophistication). Since y_t' is not necessarily received by every individual, it is possible for a market to be judged not y-efficient.[3] Thus, Beaver's definition of y-efficiency is not trivial.

Nevertheless, the above excerpt reveals that Beaver's definition of y-efficiency does not explicitly ensure aggregate-market sophistication. Yet, he appears to feel that a connection between this type of sophistication and his concept is desirable. The nature of the desired relationship may be inferred from Beaver (1981b). In this monograph, Beaver presents an example that is intended to illustrate that "the crux of a theory of market efficiency which does not rely on the existence of a set of 'experts' is that the level of knowledge reflected in prices is greater than merely the 'average' level of knowledge among investors in the market". He explains that each individual may possess only a small amount of knowledge and may exhibit a large amount of idiosyncratic behavior. He also indicates that the idiosyncratic behavior is, by definition, essentially uncorrelated among individuals and, consequently, is diversified away in forming security prices.[4] Given this diversification effect, security prices are supposed to be sophisticated at the aggregate level in the sense that they reflect more knowledge than the average. While only partially germane to the following analysis, Verrecchia (1982) identifies the following difficulty with Beaver's discussion of the average:

> Later, in discussing the nature of a consensus assessment, Beaver remarks: "The consensus can predict better than the average of the individuals who comprise it ... "
>
> The problem here is that a consensus belief, as suggested by Rubinstein [(1975)], is a particular type of average: the one implied by the market clearing price. It is unclear how the "average" to which Beaver alludes, and which he suggests is inferior to the consensus, is determined. I interpret a consensus belief as a belief which in some sense is superior to the individual heterogeneous beliefs from which it is composed. The difficulty with accepting *my* interpretation at face value is that there is no intrinsic reason that this should be the case. If two bettors have an opinion about which horse will win a race, and one bettor's opinion is vastly superior to the other's (because of the time and expense invested in formulating that opinion), there may be no "averaging" of their opinions that will be superior to that of the more sagacious bettor.

In discussing the level of sophistication that is meant to flow from his concept in a depreciation-related context, Beaver (1981b) says:

> Market efficiency means that prices act as if every investor knows that the firms changed depreciation methods, knows what those methods are and what impact they have on reported earnings, knows that there was no change in depreciation methods for tax purposes, and knows the potential implications for management's motivation to make such a change.

Thus, Beaver intends for his price-oriented concept to yield a high level of aggregate-market sophistication. Nevertheless, he acknowledges (more or less) contradictorily that it is possible that idiosyncratic behavior will not be diversified away (i.e., systematic errors in judgement will persist) in real-world financial markets and, consequently, that these markets will not necessarily reflect a desirable level of aggregate sophistication (see footnote 4 and related discussion). That is, Beaver (1981b) says:

> Needless to say, this is an extremely simple model of investor behavior mainly designed to illustrate the diversification effects that may be operating on price. Obviously, if some "errors" in judgment are systematic, this bias will persist at the aggregate level as well and will not be diversified away.

Problems with Beaver's Concepts

While Beaver's concepts may be preferable to the non-price-oriented concept(s), his concept of y-efficiency (and, consequently, his concept of η-efficiency) is problematic for several reasons. The discussion of these issues revolves around the question of whether his concept of y-efficiency classifies market mechanisms as efficient (or not) in conceptually and intuitively appealing fashions. The analysis focuses both on problems which exist even when everyone receives y_t^i (and, consequently, the real-world market mechanism necessarily is classified as y-efficient) and on problems which exist when not everyone receives y_t^i. It also considers cases in which idiosyncratic behavior is correlated (i.e., systematic) and, therefore, persists at the aggregate-market level since, as Beaver indicates, such cases are possible (or likely). In each instance, the difficulty in classifying the market mechanism appropriately can be traced to the failure of Beaver's concept to ensure aggregate-market sophistication.

The discussion of the first difficulty with Beaver's concept assumes that systematic errors in judgment (see above) are not present. The problem is that even under this assumption a market mechanism still can be judged to be y-efficient, despite the inability of the market, in the aggregate, to process information consistent with an acceptable level of sophistication. For example, assume that everyone receives y_t^i and that the market is populated by a large number of individuals that possess small amounts of knowledge, insight, and skill and a small number of more facile individuals. In this case, the market mechanism might produce prices which fail to reflect a satisfying level of aggregate-market sophistication, even though all idiosyncratic behavior is diversified away and the knowledge, insight, and skill level reflected in prices is greater than average. Nevertheless, the related price configurations necessarily would be identical and, consequently, the market mechanism would be judged to be y-efficient despite an unacceptable level of aggregate-market sophistication. Precisely the same result can occur when idiosyncratic behavior is fully diversified and prices, nevertheless, fail to reflect more knowledge, insight, and skill than the average (i.e., see Verrecchia's comment above).[5]

The second problem with Beaver's concept of y-efficiency is related to his notion of systematic errors in judgment. In this context, assume that a y_t^i is provided to everyone in the real-world economy and that this signal produces errors in judgment which have correlated effects (and, consequently, are not diversified away).[6] Under this scenario, the market mechanism necessarily would be judged to be y-efficient despite the systematic misinterpretation of y_t^i and the resulting lack of aggregate-market sophistication.

Systematic errors in judgment also can be a problem when not everyone receives y_t^i (i.e., the more likely case). Thus, assume that y_t^i is provided only to some individuals in the real-world economy (i.e., the receiving set), that these individuals do not systematically misinterpret this datum, and that a sophisticated set of prices is produced. Now, consider the effects that might be produced when y_t^i is released to the incremental set of individuals in the otherwise identical economy. Assuming members of this set misinterpret y_t^i systematically, the price configurations from the two economies might differ and, consequently, the market mechanism might be

judged not y-efficient even though this conclusion is generated by a deficient level of aggregate-market sophistication in the otherwise identical economy. Alternatively, price changes might occur in both economies because of systematic misinterpretations of y_t^i, the resulting price configurations might turn out to be identical, and the market mechanism might be judged to be y-efficient even though both price configurations are lacking in aggregate-market sophistication.

The final difficulty with Beaver's concept of y-efficiency exists only when not everyone in the real-world economy receives y_t^i and assumes (1) that the individuals in the receiving set are relatively more sophisticated than those in the incremental set of individuals receiving y_t^i in the otherwise identical economy and (2) that systematic errors in judgment are not present. The problem here is that the lack of sophistication of the individuals in the incremental set might lead to the real-world market mechanism being judged not y-efficient inappropriately. For example, using Beaver's depreciation-related thoughts on individual sophistication presented earlier, the individuals in the incremental set might understand only that firms changed their depreciation methods and the impacts of the changes on reported earnings, while the individuals receiving the information in the real-world economy might, in addition, understand the subtleties of both the new and old methods, that there were no changes in depreciation methods for tax purposes, and the managerial motivations for changing methods. Consequently, the market mechanism might generate prices which reflect a higher level of sophistication than those from the otherwise identical economy and, therefore, might be judged not y-efficient solely because of price-configuration differences that result from a deficient level of aggregate-market sophistication in the latter economy.[7,8]

An Alternative Price-Oriented Concept of Market Efficiency

There appears to be at least one approach that has the potential for eliminating the problems noted above. This approach relies on the development of a concept of aggregate-market sophistication and the subsequent integration of this concept and Beaver's concept of y-efficiency. It should be emphasized that there may be other methods of mitigating the problems with Beaver's concept. Additionally, Beaver's concept is important in its own right; thus, the ensuing discussion is not meant to imply that it never would be interesting to consider his concept alone.

While Beaver defines y-efficiency in a price-oriented sense, aggregate-market sophistication also can be defined in a similar fashion. Thus, in a price-oriented sense, a securities market is sophisticated at the aggregate level with respect to a datum if, and only if, the configuration of prices resulting from its release is the same as in an otherwise identical market, including the individuals in the receiving set, except that each member of this set is sophisticated at some, but not necessarily the same, stipulated level. In intuitive terms, this definition says that a securities market is sophisticated, in the aggregate sense, with respect to a datum if, and only if, the related prices behave as though everyone receiving the datum is sophisticated in some stipulated way.

The above concept of aggregate-market sophistication differs from Beaver's notion of y-efficiency in three important ways. First, under this concept, the receiving set is

assumed to include the same individuals in each market. Thus, this concept becomes trivial only when each member of the receiving set in the first market is sophisticated at the same level as is stipulated in the latter market. Second, this concept is not necessarily trivialized when every individual in the first market receives the datum under consideration since some of these individuals may not be sophisticated or their sophistication levels may differ from those assumed in the otherwise identical market. Third, and most important, this concept requires that each individual in the otherwise identical economy be sophisticated in some sense. Thus, it requires a set of definitions of individual sophistication.

A set of definitions of individual sophistication is critical to the concept of aggregate-market sophistication introduced above since this concept is meant to allow variation in the knowledge, insight, and skill levels of the individuals in the otherwise identical economy in relation to the implications of a given signal and the related investment decision. In this regard, some possible definitions of individual sophistication are:[9]

(1) An individual is sophisticated if, and only if, he or she understands that the datum under consideration has an illusory facet, which might be misinterpreted by some individuals in the market, and possesses basic investment knowledge (where such knowledge includes, for example, the concepts of a return and non-efficient diversification).
(2) An individual is sophisticated if, and only if, he or she possesses accounting expertise and basic investment knowledge (where the former implies, for example, that the individual understands the accounting method used in generating the datum under consideration, its impact on earnings, its tax implications, whether it has an illusory facet, and any related managerial motivations).
(3) An individual is sophisticated if, and only if, he or she understands that the datum under consideration has an illusory facet, which might be misinterpreted by some individuals in the market, and possesses investment expertise (where investment expertise implies that the individual understands, for example, modern portfolio theory and the capital asset pricing model in addition to the investment-related concepts mentioned above).
(4) An individual is sophisticated if, and only if, he or she possesses both accounting expertise and investment expertise.
(5) An individual is sophisticated if, and only if, he or she possesses both accounting expertise and advanced investment expertise (where the latter implies, for example, that the individual understands capital market theory in general, information economics, general-equilibrium theory, and the concept of rational expectations in addition to the investment-related concepts mentioned earlier).

The fundamental idea in each of these definitions is to ensure that the individual has some knowledge, insight, or skill concerning the implications of the datum under consideration and the related investment decision. For example, definition (1) is meant to guarantee that the individual can determine whether the datum under consideration is partially cosmetic (see footnote 6) and has rudimentary investment skills. At the other extreme, definition (5) is intended to ensure that the individual is

extremely facile with respect to accounting and investment matters. In every case, the individual's knowledge, insight, and skill can be assumed to come from any source, including his or her education and work experience; communication with an information system specialist; and explanatory data disseminated via a policy-setting body. Additionally, if deemed desirable, the definitions can be restated so that they impose behavioral restrictions on the individual. For example, each definition could be revised to require the individual to behave as though he or she revises probabilities in a Bayesian fashion.

Note also that the definition-related stipulations concerning knowledge, insight, and skill do not place undue restrictions on heterogeneity even if each individual is required to be sophisticated at the same level. For example, under each definition, expectations can differ if there are differences in individuals' priors, likelihood assessments, personal information systems, or methods of processing data. Even more heterogeneity is possible if each individual is not stipulated to be sophisticated at the same level. Having defined and described the most important aspects of the concept of aggregate-market sophistication, the next task is to integrate this concept and Beaver's notion of y-efficiency.

The definition presented below links the price-oriented concept of aggregate-market sophistication with Beaver's definition of y-efficiency. Thus, this definition results in the introduction of a new price-oriented concept of y-efficiency. As is the case with the price-oriented definition of aggregate-market sophistication, this definition is meant to allow the knowledge, insight, and skill levels of the individuals in the otherwise identical economy to vary in relation to the datum under consideration and the investment decision being made through definitional choices. A basic idea here is to ensure not only that each individual receives the datum under consideration, but also that every individual possesses some understanding of its implications (and non-implications) in the context of the related investment decision. These features of the definition are particularly important when considering the potential of the new price-oriented concept of y-efficiency in eliminating the problems with Beaver's concepts. The definition is:

> A securities market is efficient with respect to a signal, y_t' if, and only if, the configuration of security prices $\{P_{jt}\}$ is the same as it would be in an otherwise identical economy (i.e., with an identical configuration of preferences, endowments, and pre-signal and post-signal beliefs), except that every individual receives y_t' as well as y_{it}, and is sophisticated in some, but not necessarily the same, sense.[10]

In this definition, the condition that is necessary and sufficient for y-efficiency is referred to as price-configuration identity. This condition is similar to Beaver's condition for y-efficiency; however, it imposes the stipulation of individual sophistication on every individual in the otherwise identical economy. This stipulation also implies that the market in the otherwise identical economy is sophisticated in the aggregate sense and, consequently, that the new concept of y-efficiency is, in effect, a strong form of aggregate-market sophistication. This new concept is said to be a strong form of aggregate-market sophistication since the receiving set in the otherwise identical economy is larger than the corresponding group in the market whose efficiency is being judged, unless every one in the latter market receives the datum under consideration.[11] Note, however, that this concept does not necessarily

become trivialized under this condition since some of the individuals in the real-world market may not be sophisticated or their sophistication levels may differ from those stipulated in the otherwise identical market.

The requirement that each individual in the identical economy is sophisticated implies that the new concept of y-efficiency is effective in eliminating each of the problems with Beaver's concept mentioned previously. First, the concept can, in principle, be applied so that it ensures that a market mechanism is judged to be y-efficient only if the related prices reflect a specified satisfactory level of aggregate sophistication (however determined). For example, assume that the issue under consideration is the efficiency of a market with respect to y_t^i , given that each individual's sophistication level in the otherwise identical economy is at least consistent with definition (2) and that systematic errors in judgement are not present. In this case, a possible first step would be to see if price-configuration identity obtains under the assumption that each individual possesses accounting expertise. If price configuration identity fails to obtain under this assumption, then the individual sophistication levels could be varied at and above the level of definition (2) until price-configuration identity obtains or until the acceptable permutations of individual sophistication levels are exhausted. In this regard, notice that the new concept of y-efficiency is not unimportant simply because there may be more than one appropriate permutation of individual sophistication levels which yields price-configuration identity, since each such permutation would imply y-efficiency at, or above, the stipulated level of sophistication.

Note also that there is no guarantee that real-world prices would be consistent with any appropriate permutation of individual sophistication levels. Such a lack of consistency could occur for a variety of reasons. Most importantly, such inconsistency could occur because the market is not y-efficient, because of a deficiency in the technique (or theory) being used to generate the prices in the otherwise identical economy, because of inadequacies related to the definitions of individual sophistication, or because individual sophistication levels below the level of definition (2) are ignored.[12] Nevertheless, as indicated, the new concept ensures that a market mechanism is judged to be y-efficient only if the related prices reflect a specified minimum level of aggregate sophistication. I emphasize again that the new concept of y-efficiency is not unimportant simply because there may be more than one appropriate combination of individual sophistication levels that yields price-configuration identity, since each such combination would imply y-efficiency at, or above, the stipulated level.

Second, the new concept eliminates the problems in judging the efficiency of a market mechanism that flow from Beaver's concept when systematic errors in judgment are present. That is, under the new concept, the individuals in the otherwise identical economy are precluded from making such errors under each definition of individual sophistication and, consequently, price changes cannot occur because of such errors alone in this economy.[13] Since price changes cannot occur in the otherwise identical economy as a consequence of systematic errors in judgment, these errors cannot generate problems in judging the y-efficiency of the related market mechanism.

Finally, the new concept eliminates the possibility of a market mechanism being judged not y-efficient because of the relative unsophistication of the incremental set

of individuals receiving y_i^t (i.e., given no systematic errors in judgment). Thus, it eliminates the possibility of a mechanism being judged not y-efficient even though real-world prices reflect a higher level of sophistication than those from the otherwise identical economy. This problem is eliminated since the new concept requires each individual in the otherwise identical economy to be sophisticated in some sense and allows the individual sophistication levels to be varied exhaustively. Thus, the new concept guarantees that all sophistication levels of the incremental set that are judged to be at least as high as that produced by the receiving set in the empirical setting can be considered in assessing y-efficiency. Thus, a market mechanism could not be judged not y-efficient because of a relatively low level of sophistication existing in the incremental set.

Summary and Final Observations

This article begins by emphasizing the importance of market information efficiency from the international perspective and by indicating that a variety of definitions of this concept have been offered. Subsequently, it examines the historical relationship between market information efficiency and aggregate-market sophistication. In this context, the paper indicates that market information efficiency and some form of aggregate-market sophistication often are closely linked. Next, the article reviews Beaver's work on price-oriented concepts of market information efficiency. Here, it shows that his concept of y-efficiency fails to ensure aggregate-market sophistication and, consequently, can lead to several difficulties. More specifically, the article demonstrates that Beaver's concept can lead to conceptual problems in judging the efficiency of real-world market mechanisms in a variety of cases because it does not ensure aggregate-market sophistication. Subsequently, the article introduces a new price-oriented concept. The new concept avoids the difficulties mentioned above by incorporating a related concept of aggregate-market sophistication. The incorporated concept, itself, depends on definitions of individual sophistication, and the article provides several pertinent definitions tentatively.[14]

The primary research implication related to the new price-oriented concept is devising means of using the concept in judging the information efficiency of real-world markets. One promising approach is to employ laboratory studies, which utilize the techniques of experimental economics, in providing evidence concerning the conditions under which individuals interact to produce prices that are consistent with the new concept and which allow inferences concerning the likely information efficiency of real-world markets.[15] In this context, note that this approach already is being utilized in relation to Beaver's concept with promising results (Lundholm, 1991).

Another possibility for using the new concept in judging the information efficiency of real-word markets is related to a very difficult, but presumably not impossible, strategy. This alternative involves the construction and the confirmation of a theory of security prices that is capable of predicting the real-world prices that would obtain under varying definitions of individual sophistication, information sets, and

so on. This theory would be tested and confirmed by comparing predicted and observed real-world prices. Subsequently, it could be used in assessing price-oriented market information efficiency via the same types of comparisons. The problem with this approach is the extreme difficulty in developing the required theory – a difficulty which results from the extraordinarily complex nature of the empirical price-generation process. Because of this difficulty, this approach is considered to be a long-run desideratum.[16] Nevertheless, complete pessimism is inappropriate here since the required theory is desired by numerous researchers in finance, economics, and accounting, and human ingenuity has produced many difficult-to-construct theories to date. As Beaver (1981a) indicates, some progress is being made in developing theories which predict price behavior under a variety of conditions.

Notes

1. From here, the analysis focuses on y-efficiency for purposes of brevity, but note that everything said about this concept also applies to η-efficiency.
2. In addition to identical preferences and endowments, Beaver presumably intends to require identical individual-by-individual, pre-signal beliefs in the otherwise identical economy for all individuals and identical individual-by-individual post-signal beliefs in this economy for all individuals receiving y'_t in the real-world economy since these stipulations are necessary to ensure that the two economies are identical except for the receipt of y'_t.
3. Note that it is the effect of y'_t (i.e., in combination with y_{it} or alone) that is of primary concern in relation to a given individual under both Beaver's concept of y-efficiency and the alternative concept introduced subsequently. In this context, four interesting possibilities exist given costlessness: (1) η'_t finer than η_{it}, (2) η_{it} finer than η'_t, (3) η'_t as fine as η_{it}, and vice versa, and (4) η'_t and η_{it} not in the fineness relation, F. In the first case, η'_t (η_{it}) would be used (ignored) by the individual (with opposite results produced in the second case). In the third case, the systems are perfect substitutes; thus, the individual would be indifferent between the two systems. Assuming that it is not possible to utilize signals synergistically, the individual would use y'_t or y_{it} (but not both) depending on which datum provides the higher expected utility in the fourth case. However, if signals can be used synergistically, then the individual would use multiple signals in various instances in the fourth case. For example, assume the partitions under η'_t and η_{it} (which do not enter into F) are $\{\{s_1, s_2\}, \{s_3, s_4\}, \{s_5, s_6\}\}$ and $\{\{s_1, s_2, s_3\} \{s_4, s_5, s_6\}\}$, respectively. Next, assume that y'_{t2} is received from η'_t, and y_{it1} is received from η_{it}. Under these assumptions, the individual can infer that s_3 will occur with certainty and, consequently, would use signals from both systems (i.e., since he or she is weakly better off using both signals). Similar results follow from the receipt of y'_{t2} from η'_t and y_{it2} from η_{it}.
4. Beaver states that idiosyncratic behavior necessarily is uncorrelated by definition. Note however, that there is no reason that behavior that is peculiar to an individual (i.e., idiosyncratic individual behavior) cannot be correlated across individuals (see the excerpt from Beaver, 1981b, presented below for remarks which contradict the view that idiosyncratic behavior necessarily is uncorrelated). Also, note that Beaver provides essentially no evidence bearing on the issue of whether individual-level idiosyncratic behavior actually is uncorrelated in real-world financial markets and, consequently, is diversified away at the aggregate level.
5. This result also is possible under the assumption that not every one receives y'_t. The difference between the scenarios is that there is no certainty that the price configurations would be identical under the new assumption and, consequently, that the market mechanism would be judged y-efficient.
6. One possible class of error in judgement is related to the concept of a cosmetic accounting datum. That is, such a datum might be misinterpreted systematically. In this context, note, historically, that a *purely* cosmetic accounting datum was considered to be a datum which possessed no implications for probability revision (i.e., possessed no cash-flow implications). However, current theory and evidence suggest that data, which were considered to be purely cosmetic historically, such as data related to changes in depreciation methods, are not purely cosmetic. Under this theory, virtually every datum can be argued to have a differential cost or affect things as such as management compensation or restrictive covenants through its effects on Generally Accepted Accounting Principle calculations. Nevertheless, while few,

if any, data are likely to be purely cosmetic, a variety of data might be partially cosmetic (i.e., capable of generating cosmetic effects (or systematic errors in judgement) in addition to conceptually appealing effects related to "real" underlying economic events). On this matter, Lev and Ohlson (1982), say "... despite obvious reluctance to admit that the 'functional fixation' hypothesis could be valid, some of the evidence is not inconsistent with prices that do not always reflect the implications of publicly available information and with investors having preferences for nominally high (and/or less volatile) earnings even at the expense of after-tax cash flows."

7. This sort of scenario does not require that all individuals in the incremental set in the otherwise identical economy be relatively less sophisticated than all individuals in the receiving set in the real-world economy. For example, suppose that only 40 percent of the individuals in the incremental set understand all the implication of y_t' while 70 percent of the individuals in the receiving set understand all such implications. Under these conditions, it is possible for a lower level of sophistication to be implicit in the prices from the otherwise identical economy than is present in the related real-world prices since the overall percentage of individuals with a complete appreciation for y_t' has decreased.
8. One reason there might be a deficient level of aggregate market sophistication in the otherwise identical economy is that becoming sophisticated is a costly activity. Beaver's discussions assume that these costs are not undertaken by the individuals in the otherwise identical economy and fail to assume that costless educational activities are undertaken by these individuals. Note also that there appears to be a tendency to criticize Beaver's price-oriented concepts on the grounds that he assumes that information is costless to everyone. Logically, these concepts rely on this assumption only with respect to the individuals in the increment set in the otherwise identical economy. The assumption of an "otherwise identical eco-nomy" guarantees that information costs are the same for all parties in the receiving set (except see Beaver, 1981b (p. 158), which implies inconsistently that information might be considered to be costless to all individuals). The issue of whether information is assumed to be costless to the incremental set seems irrelevant since the matter under consideration is whether y_t' is fully reflected in prices even though this signal is not received by everyone for one reason or another, including cost.
9. The definitions given, while reasonable, are not intended to be exhaustive and are presented primarily for illustrative purposes. It is unclear exactly which, and how many, definitions of individual sophistication might be appropriate.
10. The reference to an identical configuration of pre-signal and post-signal beliefs in this definition alludes to the sorts of identical beliefs mentioned in footnote 2.
11. It also is possible to equate the concept of aggregate-market sophistication developed previously with y-efficiency. However market efficiency seems to mean more that just aggregate-market sophistication. As Beaver recognizes, it seems reasonable to stipulate that every individual in the otherwise identical economy receives the datum under consideration.
12. For simplicity, the paper ignores the possibility that it might be desirable to judge a real-world market mechanism to be y-efficient at a stipulated level even though some of the individuals in the economy are assumed to be sophisticated at a level below the stipulated level or are unsophisticated. For example, suppose that the issue under consideration is the efficiency of the market with respect to y_t' under the assumption that the aggregate sophistication level is at least consistent with definition (1). Suppose further that price-configuration identity obtains under a permutation such that one individual is unsophisticated and the sophistication level of everyone else is consistent with definition (4). Under these conditions, it might be desirable to judge the real-world mechanism to be y-efficient.
13. The conclusion presumes that the systematic errors in judgement referred to by Beaver are generated only in response to the cosmetic aspects of data. It is unclear what other types of errors in judgement might exist. In any case, individual-sophistication definition (1) presumably could be modified to deal with errors in judgement other than those due to partially cosmetic data. Additionally, this analysis presumes that Beaver would not wish to hypothesize the existence, for example, of correct (or true) probability beliefs and to argue that beliefs that deviate from correct constitute errors in judgement in the context of financial markets.
14. An issue of interest is whether it is feasible to define sophistication at the aggregate level without relying on definitions of individual sophistication and, if so, whether this approach is likely to be advantageous. In pursuing this approach, it appears necessary to link aggregate-market sophistication with a societal-level concept which can be considered to reflect some sort of sophisticated behavior on the part of society when taken as a whole. For example, one way of defining aggregate-market sophistication, without referring to individual sophistication, is to stipulate that a market is sophisticated at the aggregate level with respect to a datum if, and only if, the related prices are the same as those from an otherwise identical economy in which constrained or full Pareto efficiency has been attained (i.e., and, consequently, that a competitive equilibrium has been attained). Alternatively, it might be stipulated that a market is sophisticated at the aggregate level with respect to a datum if, and only if, the related prices are the same as those from an otherwise identical economy in which societal welfare has been maximized or some

other specified level of welfare has been attained (e.g., under the heroic assumption that interpersonal utility comparisons can be made). Another possibility is to stipulate that a market is sophisticated at the aggregate level with respect to a datum if, and only if, the related prices are the same as those from an otherwise identical rational-expectations economy in which equilibrium has been attained. Under these alternatives, a linkage would be created between market information efficiency and economic efficiency/ market equilibrium, or market information efficiency and a particular level of social welfare. Nevertheless, these alternatives appear to be undesirable for a variety of reasons. First, there seems to be no compelling reason to link aggregate-market sophistication with any of these societal-level concepts, since such a linkage would, in no way, add to the conceptual or the empirical usefulness of the former concept. Second, such a linkage might render both the concept of aggregate-market sophistication and the resulting concept of market information efficiency non-operational. Third, the resulting concept would be far removed from its antecedent concepts, since most of the authors who have written on market information efficiency have not attempted to link such efficiency with economic efficiency, equilibrium, or welfare considerations.

15. This suggestion was made in several much earlier versions of this paper in relation to both the new concept and Beaver's concept (Vickrey, 1985, 1987).
16. Note that exactly the same approach is applicable to Beaver's concept. Also, there is no reason to believe that Beaver's concept would lead to a simpler price-oriented theory of market efficiency *vis-à-vis* the new concept. That is, a price-oriented theory of market efficiency that is based on Beaver's concept would have to be capable of predicting prices given the additional complexity introduced by the existence of unsophisticated individuals.

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Auditing Firm Reputation and the Underpricing of Initial Public Offerings in Hong Kong: 1989–1991

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Key words: Auditing firm reputation; Audit quality; Initial public offering; Underpricing

Abstract: *This paper reports an empirical test of a hypothesized inverse relation between auditing firm reputation and the underpricing of initial public offerings (IPOs) in Hong Kong. It is believed that an auditing firm's reputation would help to reduce the uncertainty of investors regarding the true value of an IPO firm, and thus reduce the underpricing of an IPO. As such, IPO firms that employ more reputable auditing firms should on average exhibit lower underpricing than firms that choose to employ less reputable auditing firms. The empirical test is performed on the IPO firms over the period 1989–1991 in Hong Kong when the IPO market was increasingly active. An indicator variable regression analysis is used to model the levels of underpricing of IPOs as a function of a number of explanatory factors, including the reputation of auditing firms employed by the IPO firms. The empirical results, however, are not supportive of our hypothesis. Further empirical analysis also cannot provide support for the auditing firm reputation hypothesis. There is no apparent effect that auditing firm reputation relates negatively to the underpricing levels of IPOs in Hong Kong.*

Empirical studies have thoroughly documented that initial public offerings (IPOs) tend to be generally underpriced in the US market.[1] Previous studies of the IPOs in Hong Kong have also found such an underpricing phenomenon. For example, Dawson[2] and Dawson and Hiraki[3] found an average underpricing of 10.9 percent for IPOs in Hong Kong over the period 1978–1984. The study by Lui[4] over the 1986–1989 period found that IPOs are on average underpriced by 22.9 percent.

The explanations for the underpricing of Hong Kong IPOs are seldom addressed in the accounting and finance literature. The only empirical study we know was made by McGuinness,[5] where he found that the levels of underpricing are significantly

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related to three explanatory variables, namely a particular proxy measure for *ex ante* uncertainty of IPO firms, the incidence of secondary issues after IPOs, and the state of market variable prior to the issues. It was noted, however, that type of auditing firm reputation to IPOs is insignificantly related to the observed IPO underpricing levels. This finding is contrary to the recent studies of the effects of auditing firm reputation on the valuation of IPOs.[6] Since it is widely alleged that underwriters in Hong Kong often recommend a reputable auditing firm to be used for IPO firms, the relation between auditing firm reputation and underpricing should be given further attention.

The purpose of this paper is to focus on the reputation of auditing firms in relation to the phenomenon of underpricing IPOs. The empirical analysis is made for the IPOs in Hong Kong for 1989–1991, when the IPO markets became increasingly active. Section 1 reviews the relevant theoretical literature and empirical tests in relation to the role of auditing firms, auditing firm reputation and the underpricing of IPOs and derives testable implications. Section 2 describes the hypothesized model and the measurement of variables used for empirical tests. Section 3 describes the data set used. Results of the test are also provided and interpreted in this section. The concluding remarks appear in the final section.

1. The Role of Auditing Firms, Auditing Firm Reputation and the Underpricing of IPOs

Entrepreneurs of a firm issuing IPOs typically have private information of the firm's future prospects. Because of the information asymmetry problem, they have incentives to convey that information to prospective investors in order to reduce underpricing of the firm's IPOs. This information can be provided by a prospectus that includes statements of the firm's current financial status and its future prospects and a set of audited financial statements. The audited financial statements have been seen as an important element in a prospectus. Anecdotal evidence provides support for this contention. Most underwriters recommend one of the reputable Big Six auditing firms[7] to be used by IPO firms; some IPO firms do change auditors immediately prior to going public. The entrepreneurs of issuing firms consider that information disclosed in the financial statements audited by more reputable auditing firms will be perceived to be more credible by prospective investors than those audited by less reputable auditing firms.

The preference for reputable auditing firms at the time of an IPO may be argued in terms of minimizing monitoring cost. Auditing services are demanded as monitoring devices because of the potential conflicts of interests between owners and managers.[8] The monitoring cost argument may be particularly relevant in Hong Kong since the minimum track record for an IPO firm is only three years. The issuing firms of IPOs tend to be small with limited operating histories. Since there is generally little information of those firms at the time of issue, prospective investors have to rely on the entrepreneur's self-disclosures in order to evaluate the future prospects of the IPO firms. Without credible financial statements, investors may be dubious as to the trustworthiness of the disclosed information and may therefore undertake a costly

search for alternative sources of information for verification purpose. The costs of information search may not be compensated by the amount of shares that investors can ordinarily expect to be allocated. It may then be necessary to underprice the IPO at a greater level to attract their interest. Therefore, the provision of credible financial statements by an auditing firm serves to reduce the monitoring cost. DeAngleo[9] and Simunic and Stein[10] argue that the credibility of financial statements is, in turn, dependent on the perceived quality of an audit. A higher perceived quality of an audit is particularly likely to be associated with more reputable auditing firms for the following reasons. Since the actual quality of the audit is not observable, entrepreneurs gain from the confidence of investors by accepting the auditing firm's reputation for accuracy and reliability of the financial statements provided. In addition, it is contended that because of their larger collateral properties, larger (more reputable) auditing firms supply higher-quality audits. Hence, it is fair to conclude that more reputable auditing firms employed by an IPO firm will provide more credible financial statements, reduce the probability of misrepresentation made by entrepreneur's self-disclosures, and therefore, lead to a greater reduction of monitoring cost, and a lower underpricing of the IPO.

Various asymmetric models have been proposed to explain the role of an auditing firm and its impact on the valuation or underpricing levels of IPOs. Titman and Trueman[11] derive a model which shows that an entrepreneur with favorable private information of his/her firm's value will choose a higher-quality auditing firm than an entrepreneur with less favorable information. The firm is willing to pay a premium price for this higher-quality audit since, the higher the quality, the more favorable will investors tend to assess the conveyed information to be and thereby positively impact the value of the IPO. The actual quality of the audit is, however, not observable. DeAngelo[12] notes the use of auditing firm reputation as a collateral bond in certifying quality services since more reputable auditing firms have a greater presumed reputation at stake. Therefore, the relative level of an auditing firm's reputation might be related to underpricing.

Simunic and Stein[13] examine the determinants of auditor choice in the IPO market. They provide empirical evidence that audit services are quality-differentiated, and thus auditing firm reputation is not homogeneous. Among other results, they also find that there is a direct relation between a firm's initial value and the quality of the auditing firm and investment banker chosen by the firm's owners. The relation between investment banker and auditing firm in determining the underpricing of new issues is explicitly addressed by Balvers et al.[14] Based on an investment banker's profit function, it is assumed that high-quality investment bankers signal their quality through the choice of more reputable auditing firms. The reputation of the auditing firm serves to reduce the uncertainty as to the earnings of the issuing firm. Their empirical findings suggest that auditing firm reputation has a negative effect on underpricing, though the effect of the auditing firm's reputation decreases as the investment banker's reputation increases.

In Beatty and Ritter's asymmetric information model, the uncertainty concerning the true value of the IPO firm has been formally described as *ex ante* uncertainty.[15] It is contended that the greater the *ex ante* uncertainty, the greater the expected underpricing of an IPO.[16] The existing owners of a firm have an incentive to signal

their private information of the firm's future prospects in order to reduce *ex ante* uncertainty. However, the effectiveness of signalling may be affected by IPO firms with "high" *ex ante* uncertainty but who attempt to disclose "low" *ex ante* uncertainty. To mitigate the classic "lemon" problem,[17] the role of an auditing firm in providing this attestation function to the disclosed information is valuable.

More reputable auditing firms have a greater incentive to investigate and report discovered errors since they have their reputation at stake. As a result, the information disclosed in the financial statements of the prospectus audited by these firms is perceived to be more credible than those audited by the less reputable auditing firms, *ceteris paribus*. Engaging a reputable auditing firm enables investors to estimate more precisely the value of the firm and helps to reduce the *ex ante* uncertainty. More investors will then be willing to submit a bid for its IPO shares, and consequently the IPO firm attested by a more reputable auditing firm should have a smaller discount. Beatty[18] provides an empirical study of the relation between underpricing and auditor choice. He finds that the then widely used Big Eight/non-Big Eight classification may measure auditing firm reputation with error particularly for the smaller Big Eight and larger non-Big Eight firms. Furthermore, his result indicates the willingness of IPO firms to pay a premium for more reputable auditing firms that presumably would lower initial returns for their investors. He concludes with a significant inverse relation between auditing firm reputation and IPO initial return.

The preceding review leads to our hypothesis concerning the auditing firm reputation. The role of an auditing firm is primarily to reduce the *ex ante* uncertainty of an IPO firm. Therefore, this study tests whether there is an inverse relation between auditing firm reputation and the underpricing of IPOs. Specifically, the IPO firms that employ more reputable auditing firms should exhibit lower underpricing than firms that choose to employ auditing firms with less reputation at risk.

2. The Model and Variables

In the section, we use an indicator variable regression model to test for a hypothesized inverse relation between auditing firm reputation and the underpricing of IPOs that we derive from section 1. The regression model controls for *ex ante* uncertainty (age of client, percentage of ownership offered in the IPO, and the standard deviation of daily returns), financial measures and perception of the firm's value (net profit margin and domicile of incorporation indicator variable), other reputation effects (underwriter indicator variable), and the state of the market prior to the IPO (market trend value). The reputation hypothesis is evaluated by testing linear restrictions on the estimated coefficients of the Big Six and non-Big Six auditing firm indicator variables. The Big Six are used as a proxy for more reputable auditing firms and the non-Big Six for less reputable firms.

The estimated model is as follows:

$$\mathrm{UP}_i = b_0 + b_1(\mathrm{AGE}_i) + b_2(\%\mathrm{OFFER}_i) + b_3(\mathrm{SD}_i) + b_4(\mathrm{NPM}_i)$$
$$+ b_5(\mathrm{INCORP}_i) + b_6(\mathrm{UW}_i) + b_7(\mathrm{MKT}_i) + \mathrm{b}_8(\mathrm{AUD}_i) + e_i$$

where:

UP = the level of underpricing. The proportional change in price between the offering price of the IPO and the first-day closing price;

AGE = indicator variable that takes the value of 1 for a firm having an operating history of over 10 years and 0 for less than 10 years, as explained below;

%OFFER = the percentage of shares owned by outside investors after the offerings;

SD = standard deviation of daily returns for days 2–11 after the first trading day;

NPM = the average net profit margin of the firm for the last five years;

INCORP = indicator variable that takes the value of 1 for a firm incorporated overseas and 0 in Hong Kong;

UW = indicator variable that takes the value of 1 for an underwriter belonging to the prestigious group, and O for the non-prestigious group, as defined below;

MKT = market trend variable. The trend value is estimated by using the time series moving average model over the Hang Seng Index for 15 trading days prior to the first date of first public listing;

AUD = indicator variable that takes the value of 1 for an auditing firm belonging to the Big Six and 0 for non-Big Six;

e = error term.

The variable AGE, which represents the age of the IPO firm, is measured from the date of incorporation. We expect AGE to be negatively related to the dependent variable. The ability of analysts or investors to evaluate the future results and prospects of an IPO firm is dependent on the information available about the firm. A longer operating history may provide more information for investors to verify the disclosed information and to gauge the quality of management. We believe a period of 10 years to be a reasonable cut-off. A longer history will likely reduce the investors' *ex ante* uncertainty as to the true value of an IPO firm and results in less underpricing of an IPO.

The percentage of ownership offered is calculated as one minus the percentage of shares (beneficiary and non-beneficiary) held by the insiders after the issue of an IPO. The shares of insiders include shares issued to related companies, management, and directors. Outside investors will discount the price of an IPO to reflect the associated monitoring cost. Based on Jensen and Meckling's argument, the lower the percentage of shares retained by the insiders, the greater the monitoring cost.[19] Therefore there should be a negative relation between the dependant variable (UP) and %OFFER, the percentage of shares owned by outside investors after the offerings. Leland and Pyle[20] and Downes and Heinkel[21] show that the percentage retained ownership by insiders is a signal of their private information to outside investors. This is consistent with the empirical findings by Beatty.

As discussed earlier, Beatty and Ritter[22] and Rock[23] contend that there is a positive relation between *ex ante* uncertainty and the underpricing of an IPO. SD, defined as the standard deviation of daily returns for days 2–11 after the first trading day, is used as an *ex post* proxy for *ex ante* uncertainty to control for the cross-sectional differences in *ex ante* uncertainty for our sample.

The average net profit margin is computed from the past five years' earnings reported under the audited financial statements for prospectus. Investors who are concerned with assessing the value of an IPO firm value are especially interested in the firm's future performance. Their interest in the firm's future performance and its ability to generate favorable cash flows prompts their interest in the firm's reported earnings for years prior to the offerings. A higher level of earnings is likely to convince investors of better future prospects of the IPO firm, reducing the risk of buying the IPO, and should therefore result in a negative coefficient for NPM.

The indicator variable of the domicile of incorporation is a unique variable in Hong Kong. Following the political unrest of June 4, 1989 in China, many firms have changed their places of incorporation to outside of Hong Kong. Most IPO firms in recent years have their domiciles of incorporation in Bermuda or the Cayman Islands to escape the risk of political changes in Hong Kong in 1997. Some of the large listed companies which subsequently changed their incorporated status to outside of Hong Kong experienced a drop in share prices at the time of announcement of the change. It is envisaged that the domicile of incorporation overseas may reduce investor's perception of the future performance and prospects of the firms. However, these firms are willing to sacrifice lower share prices at present for "security" in the future. Therefore, we expect a positive coefficient for INCORP. IPOs having an overseas domicile of incorporation should exhibit larger underpricing than those incorporated in Hong Kong.

The underwriter indicator variable controls for underwriter reputation. Balvers et al.,[24] Beatty and Ritter[25] and How et al.[26] find that underwriter reputation has an impact on the level of underpricing of an IPO. Underwriters with higher reputation underprice less IPOs. We would, therefore, expect UW to be negatively related to the dependent variable. The classification scheme for underwriter reputation is similar to that of McGuinness. Underwriters who have been involved in a significantly greater number of cases advising issues of IPOs during the sample period are included in the prestigious group.[27] Since larger underwriters may be perceived as more reputable because of their larger investment capital at stake, an alternative ranking of underwriter reputation is considered in terms of the underwriters' turnover for the year 1991. The dual ranking scheme yields identical classifications in the prestigious and non-prestigious groups.

Finally, the variable of the state of the market prior to the date of first public listing of an IPO is controlled in the regression model. We expect MKT to be positively related to the dependent variable. Underpricing of IPOs is contended to be larger during rising markets than during falling markets. Our sample period under review (1989–1991) includes both rising and falling markets. Falling markets are identified for the period subsequent to the event of June 4, 1989 in China to the end of 1990, when the market was not active and only a total of 17 IPOs were issued. A rising market began in 1991, and a boom of 45 IPOs was recorded for the year. Our study uses the well-known Hang Seng Index, composed of the major constituent stocks of the overall market, as a proxy market index. The first-order moving average model is used to estimate the 15-day market trend variable just prior to the first dealing day of an IPO.

3. Data and Results

Descriptive Statistics

The data used in the empirical tests are drawn from the population of 62 IPOs from 1989 to 1991 in Hong Kong. The main data source for the variables used in the regression analysis is from the prospectuses of the IPO firms. The share prices of these firms are extracted from "Daily Quotations," which are published by the Stock Exchange of Hong Kong.

Table 1 reports the mean underpricing of IPOs in terms of auditing firms, auditing firm reputation, and year. The average underpricing, 13.5 percent, is significantly less than the nearly 18 percent reported by McGuinness for the 1980–90 period. This may be attributable to the fact that our sample covers only the period after the unification of the Stock Exchange where investors have more confidence in the market than the overall period 1980–90 studied by McGuinness.[28] Within the Big Six auditing firms, Deloitte Ross Tohmatsu and Ernst & Young audited the greatest number of IPOs. The level of average underpricing within the Big Six ranges from 6.6 percent to 14.3 percent. If v_i is the average underpricing for each Big Six auditing firm, the null hypothesis that the v_i are all equal cannot be rejected at the 5 percent level of significance (F-statistic = 0.16).[29] The level of average underpricing for all Big Six auditing firms is 12 percent, against 19.3 percent for non-Big Six auditing firms. However, the univariate analysis does not indicate a significant difference between the average underpricing of the Big Six and the non-Big Six at the 5 percent level (F-statistic = 1.32).[30] The average underpricing dropped from 16.7 percent in 1989–90 to 12.3 percent in 1991.

Table 2 presents a correlation matrix for the independent variables used in the regression. Kaplan[33] suggests that multicollinearity may be a problem when the

Table 1. Descriptive statistics of average underpricing by auditing firms, auditing firm reputation and by year

Auditing firm	Number of IPOs	Average underpricing (%)
By classification		
Big Six[31]		
Arthur Andersen	1	10.7
Coopers & Lybrand	5	11.8
Deloitte Ross Tohmatsu	19	10.9
Ernst & Young	19	14.3
KPMG Peat Marwick	2	8.7
Price Waterhouse	3	6.6
All Big Six	49	12.0
All Non-Big Six[32]	13	19.3
By year		
1989–1990	17	16.7
1991	45	12.3
All	62	13.5

Table 2. Correlation matrix for the auditing firm reputation model variables

	AGE	%OFFER	SD	NPM	MKT
AGE	1.000	0.060	−0.069	0.062	0.063
%OFFER		1.000	0.256	−0.045	0.103
SD			1.000	0.151	−0.159
NPM				1.000	0.207

correlation is 0.90 or above, while Emory[34] considers 0.80 to be problematic. The correlation matrix above indicates that the correlations among the explanatory variables are small (all less than 0.26) and, therefore, there is no danger that multicollinearity may jeopardize our indicator variable regression results.

Indicator Variable Regression Results

Table 3 summarizes the results of the indicator variable regression. The signs of the coefficients are in the anticipated direction, except UW. Four independent variables are found significant: SD is significant at the 1 percent level, and NPM, INCORP, and MKT are significant at the 5 percent level. The positively significant relation between SD and UP provides strong support for the proposition developed by Beatty and Ritter[35] that the expected underpricing of an IPO should be positively related to the IPO firm's *ex ante* uncertainty. The positively significant coefficient of MKT supports the contention that underpricing of IPOs is larger during rising markets than during falling markets.[36] It is interesting that the two variables NPM and INCORP, never used in prior studies, are significant. This may support our view that the actual financial measure for, and the perception of, the firm's value as represented by NPM and INCORP, respectively, can significantly affect the level of underpricing of IPOs. Both AGE and %OFFER are, however, not significant.[37] We may therefore, question the use of the monitoring cost argument to explain underpricing levels of IPOs in Hong Kong. The positive coefficient of UW is not so surprising.[38] The type of underwriter agreement for Hong Kong's IPOs is exclusively the "firm commitment". The "best efforts" underwriting arrangements are not allowed under the regulations of the Stock Exchange of Hong Kong Ltd. In the absence of the latter type of

Table 3. Indicator regression results for the auditing firm reputation model

	Coefficient	Standard error	*t*-statistic	Expected sign
Intercept	−0.038	0.115	−0.330	
AGE	−0.017	0.046	−0.370	−
%OFFER	−0.186	0.185	−1.005	−
SD	6.553	1.473	4.449**	+
NPM	−0.594	0.272	−2.184*	−
INCORP	0.117	0.058	2.017*	+
UW	0.061	0.049	1.245	−
MKT	0.005	0.002	2.500*	+
AUD	−0.026	0.053	−0.491	−

$R^2 = 0.231$ $F = 3.29$ $n = 62$
*Significant at the 5 percent level.
**Significant at the 1 percent level.

underwriting contracts offered to the IPO markets, it is conjectured that the underwriters' incentive to reduce their risk exposure (since all IPOs are underwritten on a firm commitment basis) "wipes out" their reputation effects. Coupled with the fact that underwriter reputation is not easily observable, it may be difficult to persuade investors to infer the price uncertainty for an IPO based on the arbitrary prestige levels that a particular underwriter may have. Finally, surprisingly, our variable of interest, AUD, does not support our hypothesis. Given that there is prior empirical evidence for the inverse relation between auditing firm reputation and the level of underpricing of IPOs, further empirical analysis needs to be conducted.

Further Empirical Analysis

The lack of a significant result for the auditing firm reputation variable may indicate that the traditional Big Six and non-Big Six dichotomy does not capture differences in auditing firm reputations. However, the use of a dichotomous variable to measure auditing firm reputation is clearly a coarse approximation. To determine the robustness of our results, we proceeded to perform tests using different proxies for the reputation of auditing firms.

In our first test, we followed the two-stage least-squares regression used by Beatty[39] to estimate a proxy for auditing firm reputation. As discussed in section 1, we argue that the investors' *ex ante* uncertainty about the IPO firm's value decreases if the IPOs are associated with more reputable auditing firms. Firms are willing to pay higher fees for IPOs audited by more reputable auditing firms *ceteris paribus*, and therefore the fees paid for a more reputable auditing firm should be inversely related to the underpricing of an IPO. According to Beatty, in the first stage of the two-stage least-squares regression total compensation paid to the auditing firm is regressed on measures of marginal cost of performing the audit.[40] The underpricing levels of IPOs are then regressed on the residual from the first-stage regression in the second stage by the following model:

$$\mathrm{UP}_i = b_0 + b_1\,(\mathrm{AGE_i}) + b_2\,(\%\mathrm{OFFER_i}) + b_3(\mathrm{SD_i}) + b_4(\mathrm{NPM_i})$$
$$+\, b_5\,(\mathrm{INCORP_i}) + b_6\,(\mathrm{UW_i}) + b_7(\mathrm{MKT_i}) + \mathrm{r}u_i$$

Beatty predicts that the coefficient on the residual u from the first-stage compensation regression will be negative since larger compensation paid to more reputable auditing firms is expected to bring less underpricing of the IPOs[41]. Table 4 reports the two-stage least-squares regression results for our auditing firm reputation hypothesis. The results are substantially the same as those reported in Table 3 with respect to the sign and significance of the variables, except that NPM turns from an originally significant to a now insignificant variable at the 5 percent level. The coefficient of the residual auditing firm compensation variable, r, is negative as expected but insignificant. Therefore, there is no strong support for the inverse relation between auditing firm reputation and underpricing.

A critical analysis of Table 1 reveals that the insignificant inverse relation between auditing firm reputation and the levels of underpricing could be due, in part, to the fact that a large proportion of the IPOs in our sample (79 percent) is audited by the Big Six – compared to Beatty, where the proportion is 58 percent and How et al.,

Table 4. Two-stage least-squares regression results for the auditing firm reputation model

	Coefficient	Standard error	*t*-statistic
INTERCEPT	0.051	0.076	0.671
AGE	−0.002	0.002	−1.000
%OFFER	−0.182	0.171	−1.064
SD	7.018	1.488	4.716**
NPM	−0.479	0.252	−1.901
INCORP	0.119	0.056	2.125*
UW	0.062	0.046	1.348
MKT	0.004	0.002	2.000*
u	−0.004	0.020	−0.200

$R^2 = 0.245$ $F = 3.44$ $n = 62$
*Significant at the 5 percent level.
** Significant at the 1 percent level.

where it is 61 percent.[42] Furthermore, Table 1 shows that two of the Big Six auditing firms (Deloitte Ross Tohmatsu and Ernst & Young) each audited 19 IPOs in the sample. Given the huge difference in the number of IPOs audited within the Big Six group, we consider using the number of IPOs audited by the auditing firm as a surrogate reputation variable. Apart from being consistent with the measure of the underwriter's reputation, this measure also provides a test of the robustness of our original results. The results of the test (details not reported here) are substantially the same as what we report in Table 3, with respect to the sign and significance of variables. SD is significant at the 1 percent level. NPM, INCORP and MKT are all significant at the 5 percent level. The auditing firm reputation variable, as measured by the actual number of IPOs involved, is insignificant and becomes even less significant than the results reported in Table 3. As Deloitte Ross Tohmatsu and Ernst & Young together audit approximately 62 percent (38 out of 62) of all IPOs issued, we proceed to test the auditing firm reputation effect by assuming that these two auditing firms are more reputable than the others. We assign the value 1 for IPOs audited by these two auditing firms, and zero otherwise. The regression results (details not reported here) are not significantly different from those reported in Table 3. We cannot detect any significant impact of auditing firm reputation on the underpricing levels of IPOs.

4. Summary and Conclusions

This study investigates the hypothesized inverse relationship between auditing firm reputation and the underpricing of IPOs. It has been contended that the attesting role of auditing firms for the accuracy of management disclosures reduces the *ex ante* uncertainty about the IPO firm's value faced by outside investors. This suggests that the levels of underpricing should be lower for IPOs associated with more reputable auditing firms than those associated with less reputable auditing firms.

Using the traditional Big Six and non-Big Six classification for auditing firm reputation, the indicator regression result, however, is not supportive of our hypothesis. There is no strong support for these inverse relationship between auditing firm reputation and the underpricing of IPOs. Further empirical analysis was performed

to test the robustness of our results by using different proxies. However, we still did not obtain significant results for the auditing firm reputation hypothesis.

Though auditing firm reputation may not be related to underpricing, our empirical findings do provide some explanations for the underpricing phenomenon observed in Hong Kong. First, it is noted that the profitability of the firms, before going public, as measured by the variable NPM, is negatively and significantly related to the IPO underpricing levels. The second finding follows the *ex ante* uncertainty argument suggested by Beatty and Ritter that an increase in *ex ante* uncertainty of the firm will lead to a greater underpricing of its IPO. Third, we find that market trend variable, MKT, is positively and significantly related to the IPO underpricing levels, confirming that the IPOs tend to be more underpriced during rising markets than falling markets. Finally, the domicile of incorporation chosen by the firm has a significant impact on the pricing of its IPO. IPOs having a domicile of incorporation outside Hong Kong are found to be more underpriced than those located in Hong Kong.

Contrary to popular belief in the literature, auditing firm reputation is insignificantly related to IPO underpricing levels, suggesting that the supply of auditing services may not be heterogeneous in Hong Kong. This interesting phenomenon should be further explored in future research in order to enhance our understanding of the supply of auditing services in various markets worldwide.

Notes

1. See, for example, Roger Ibbotson, "Price Performance of Common Stock New Issue." *Journal of Financial Economics.* (September 1975), 235–272; Roger Ibbotson and Jefrey Jaffe, "'Hot Issue' Markets" *Journal of Finance* (September 1975) 1027–1042; Jay Ritter, "The 'Hot Issue' Market of 1980." *Journal of Business* (April 1984), 215–240.
2. Steven Dawson, "Secondary Stock Market Performance of Initial Public Offerings, Hong Kong, Singapore and Malaysia: 1978–1984." *Journal of Business Finance and Accounting* (Spring 1987), 65–76.
3. Steven Dawson and Takato Hiraki, "Selling Unseasoned New Shares in Hong Kong and Japan: A Test of Primary Market Efficiency and Underpricing." *Hong Kong Journal of Business Management* (Summer 1985), 125–133.
4. Yu-Hon Lui, "Underpricing of IPOs on the Hong Kong Market." *Securities Journal* (February 1992), 28–29.
5. Paul McGuinness, "An Examination of the Underpricing of Initial Public Offerings in Hong Kong: 1980–90." *Journal of Business Finance and Accounting* (January 1992), 165–186.
6. See, for example, Ronald Balvers, Bill McDonald and Robert Miller, "Underpricing of New Issues and the Choice of Auditor as a Signal of Investment Banker Reputation." *Accounting Review* (October 1989, 605–622; Randolph Beatty, "Auditor Reputation and the Pricing of Initial Public Offerings." *Accounting Review* (October 1989), 693–709.
7. The Big Six auditing firms in Hong Kong are: Arthur Andersen; Coopers & Lybrand; Deloitte Ross Tohmatsu; Ernst & Young; KPMG Peat Marwick; and Price Waterhouse.
8. For elaboration, see Micheal Jensen and William Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics* (October 1976), 305–360; Ross Watts and Jerold Zimmerman, "Agency Problems, Auditing and the Theory of the Firm: Some Empirical Evidence." *Journal of Law and Economics* (October 1983), 613–633.
9. Linda DeAngelo, "Auditor Size and Audit Quality." *Journal of Accounting and Economics* (1981), 183–199.
10. Dan Simunic and M. Stein, *Product Differentiation in Auditing: Auditors Choice in the Market for Unseasoned New Issues.* (Vancouver, BC: Canadian Certified General Accountants Research Foundation 1987).

11. Sheridan Titman and Brett Trueman, "Information Quality and the Valuation of New Issues." *Journal of Accounting and Economics* (June 1986), 159–172.
12. Linda DeAngelo, 1981, op. cit.
13. Dan Simunic and M. Stein, 1987, op. cit.
14. Balvers et al., 1989, op. cit.
15. Randolph Beatty and Jay Ritter, "Investment Banking, Reputation, and the Underpricing of Initial Public Offerings." *Journal of Financial Economics* (January/February 1986) 213–232.
16. Kevin Rock (1986), and Randolph Beatty and Jay Ritter (1986) develop an asymmetric information model which explains the underpricing of IPOs. Under their models, two classes of investors, informed and uninformed, are assumed to exist. Informed investors will only submit orders to purchase issues which are underpriced, uniformed investors will tend to purchase orders for underpriced and overpriced issues in proportion to the number of each type of issue offered. Since underpriced issues are more likely to be oversubscribed and subsequently rationed, uninformed investors have a greater chance of being allocated shares for overpriced issues than for underpriced issues. Faced with this "winner's curse" problem, uninformed investors will only participate if, on average, IPOs are underpriced. Beatty and Ritter further argue that the degree of underpricing is directly related to *ex ante* uncertainty concerning the value of an IPO faced by the uninformed investors. An increase in the *ex ante* uncertainty will intensify the winner's curse problem. More money will be demanded to be "left on the table" leading to a greater underpricing of an IPO.
17. George Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics* (August 1970), 488–500.
18. Randolph Beatty, 1989, op. cit.
19. Micheal Jensen and William Meckling, 1976, op. cit.
20. Hayne Leland and David Pyle, "Informational Assymmetrics, Financial Structure, and Financial Intermediation." *Journal of Finance* (May 1977), 371–387.
21. David Downes and Robert Heinkel, "Signalling and the Valuation of Unseasoned New Issues." *Journal of Finance* (March 1982), 1–10.
22. Randolph Beatty and Jay Ritter, 1986, op. cit.
23. Kevin Rock, "Why New Issues Are Underpriced." *Journal of Financial Economics* (January/February 1986), 187–212.
24. Balvers et al., 1989 op. cit.
25. Randolph Beatty and Jay Ritter, 1986, op. cit.
26. How J., Izan H. and Monroe G., "Differential Information and the Underpricing of IPOs: Australian Evidence." *The Third Annual International Research Symposium on Small Business Finance Conference Proceedings* (Tallahassee, FL, 1991).
27. The prestigious group consists of Peregrine Capital, Wardley Corporate Finance and Standard Chartered (Asia), having the number of advising issues of 14, 16 and 21 respectively. The following underwriters, having the number of advising issues within 1 to 6, are included in the non-prestigious group: Anglo Chinese Corporate Finance, Banque Paribus, Baring Bother (Asia), Cazenove & Co. (Overseas), CEF Capital, Chase Manhatten, China Development Finance, Citicorp International, Credit Lyonnis, Daiwa Securities, Dao Heng Securities, DBS, DKB, East Asia Warburg, Hoare Govett, Jardine Fleming, Lippo Asia, Morgan Grenfell Asia, Nomura, NMB (HK) Finance, Prudential Asia, Sanwa International Finance, Sassoon Securities, SBCI Finance Asia, Schrodia Asia, Societe Generale Asia, Somerly Ltd, Sun Hung Kai International, Takugin International, United IBV, and Worldsec International.
28. Prior to April 1986, there were four stock exchanges in Hong Kong, namely the Hong Kong Stock Exchange, the Kowloon Exchange, the Kam Ngan Exchange and the Far East Exchange. These exchanges were amalgamated into the Stock Exchange of Hong Kong on April 2, 1986.
29. The F-statistic of the average underpricing within the Big Six auditing firms is estimated by using ANOVA for 49 observations from 1989–91.
30. The F-statistic of the average underpricing between the Big Six and non-Big Six auditing firms is estimated by using ANOVA for 62 observations from 1989–91.
31. If two auditing firms, one Big Six and one non-Big Six, are employed jointly for an IPO, it is assumed that a higher audit quality is perceived by the investors due to the engagement of the more reputable Big Six auditing firm. Thus, the IPO is classified wholly into the Big Six category.
32. The non-Big Six auditing firms identified in our sample include Byrne & Co., H.L. Leung, Kwan, Wong, Tan & Fong, and Moores & Rowland. Because of the relatively small sample of the non-Big-Six group, it is not meaningful to show average underpricing by individual non-Big-Six auditing firms.
33. Robert Kaplan, *Advanced Management Accounting* (Englewood Cliffs, NJ: Prentice-Hall, 1982).
34. William Emory, *Business Research Methods* (Homewoods, IL: Richard Irwin, 1982).
35. Randolph Beatty and Jay Ritter, 1986, op. cit.
36. See Frank Reilly, "New Issues Revisited." *Financial Management* (Winter 1977), 28–42; Randolph Beatty and Jay Ritter, 1986, op. cit. It is suggested earlier that the degree of underpricing could be driven

by the state of the market at the time the firm goes public. An alternative method for MKT is to use the market-adjusted underpricing to control for the market movement, which is tantamount to restricting the coefficient of MKT to 1. Defining the market-adjusted underpricing $MUP_i = UP_i - \Delta HS_i$, where ΔHS_i represents the percentage change in Hang Seng Index on the first trading day of the IPO, we run the indicator variable regression (excluding MKT) again. The results (details not reported here) are not significantly different from those reported in Table 3. Both SD and INCORP are significant at the 1 and 5 percent levels, respectively. NPM, however, becomes insignificant. The auditing firm reputation variable, AUD, is still not significant.

37. We tried alternative measures for AGE. Neither the log of AGE nor the number of years of operating history for AGE produce significant coefficients for the indicator variable regression results.
38. It is possible that the lack of underwriter reputation effects is due to proxy problems. An alternative proxy, the actual frequency of the underwriter's involvement in IPOs, is employed to measure the underwriter reputation. The results (details not reported here) are not significantly different from those reported in Table 3. Both SD and MKT are highly significant at the 1 and 5 percent levels, respectively. NPM and INCORP, however, become significant only at the 10 percent level. UW still retains a positive but insignificant coefficient. The auditing firm reputation variable is not significant.
39. Randolph Beatty, 1989, op. cit.
40. Consistent with Beatty, the following regression is employed for the first-stage regression: $FEES_i = b_0 + b_1 (PROCEEDS_i) + b_2 (SALES_i) + b_3(ASSETSi) + e_v$ where FEES = the log of total compensation (auditor fees, legal fees, printing fees and other miscellaneous fees) paid to an auditing firm for the IPO; PROCEEDS = the log of the proceeds from the offerings; SALES = the log of the sales revenue of an IPO firm for the latest year before making IPO; ASSETS = the log of net assets adjusted for the net proceeds raised from the offerings; e = error term. The overall regression results (details not reported here) are significant at the 0.007 level (F-statistics = 4.51). Both PROCEEDS and SALES are positively and significantly (at the 2 percent level) related to FEES. This is consistent with our prior belief that as the size of the IPO firm increases, the total payment to auditing firm, lawyers, and for printing will increase.
41. See Beatty (pp. 702–704) for details of using two-stage least-squares regression to assess the relation between auditing firm reputation and underpricing level levels of IPO firms.
42. In contrast, amounting to 79 percent of the total IPOs audited by the Big Eight, Balvers et al. document a significantly negative effect of auditing firm reputation, reducing the level of underpricing for IPOs by approximately 4.2 percent.

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Further Evidence on Auditor Concentration: The Case of a Growing Market

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Key words: Auditor concentration; Mergers; Surrogates for audit fees; Big six

Abstract: *This paper analyses changes in auditor concentration in one of the newly industrialized countries, Hong Kong. The usefulness of different measurement bases as possible surrogates for audit fees in concentration studies is also examined. Comparison of results in Hong Kong with those in the United States will reveal the process by which auditor concentration has evolved over time. An important finding is that stage-of-growth cycle may be another cause for auditor concentration. This will contribute to a better understanding of the behavior of audit firms such as their pricing practices. The results also show that, consistent with the findings in the UK, concentration measures based on client sales and its square root transformation provide consistent overestimates and underestimates, respectively, of concentration measures based on audit fees. This rule also holds true for other size measures such as clients' total assets.*

Over the past several years, a wave of mergers has swept through the public accounting profession in the United States. In particular, the mergers of Ernst & Whinney and Arthur Young into Ernst & Young, and Deloitte Haskins & Sells and Touche Ross to form Deloitte & Touche, have converted the previous "Big Eight"[1] into a "Big Six". The megamergers have attracted a great deal of attention in the accounting profession because of their potential impact on market concentration and competition.

The excessive concentration of power in a few hands has been a concern in the accounting profession because of its implications for competition and auditor independence (US Senate Subcommittee, 1977; Briston and Kedslie, 1984). This concern is largely based on the structure–conduct–performance paradigm developed in industrial organization economics (e.g. Mason, 1939; Bain, 1968; Demsetz, 1973; Scherer, 1980). Briefly, the paradigm hypothesizes that market structure is the most important determinant[2] of business conduct, which in turn determines economic performance, though there may be reverse causalities.

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A widely studied and documented measure of market structure is market concentration. In the market for audit services, if supplier concentration is high, i.e. a small number of audit firms account for a major proportion of the market, large firms are likely to have greater monopoly power over their prices. Because of the lack of competition, large firms' incentives to improve the quality of their services may be lowered. Furthermore, possible collusion of oligopolists may impede entry of new suppliers into the market, thus further reducing competition. On the other hand, in an effort to gain or retain clients, small audit firms may have to lower their prices to an unrealistic level, which may lead to a deterioration of the quality of their services. The independence of small audit firms may be jeopardized because their ability to resist management pressure in audit conflict situations may be weakened. In fact, empirical studies seem to provide some support to these allegations (e.g., Palmrose, 1986; Francis, 1984).

Because of the important implications of auditor concentration, a number of studies have examined the supplier concentration in the audit market in various countries. All have shown that the audit market is dominated by only a few large audit firms (e.g., United States: Zeff and Fossum, 1967; Rhode, et al. 1974; Tomczyk and Read, 1989; United Kingdom: Moizer and Turley, 1987, 1989; Canada: Shaw and Archibald, 1970; Australia: Gilling and Stanton, 1978; and New Zealand: Gilling, 1970, 1976, 1977, 1985). However, there is little evidence on the audit market structure in recently developed countries such as Hong Kong. In the last decade, the newly industrialized countries of East and South-East Asia have been the focus of international economic development. The degree of auditor concentration in these countries deserves more attention.

Over the past decades, Hong Kong has grown into an international finance and trade center. The rapidly increasing demand for audit services has attracted the entry of the international Big Eight audit firms into the Hong Kong market. Unlike the market in the United States, which is in the maturity stage[3] of the stages-of-growth cycle, the market for audit services in Hong Kong is in a rapid growth stage.[4] The study of changes in market concentration in Hong Kong will reveal the process by which auditor concentration has evolved over time in a growing market. A comparison of the patterns of auditor concentration in Hong Kong and in the United States may provide some insights into the cause of market concentration in the audit industry. With the absence of antitrust laws in Hong Kong, it is important for the accounting profession to be aware of the changes in auditor concentration so that precautionary action can be taken to avoid any possible harmful effects such concentration may have on the quality of services.

To analyze market concentration, the choice of the units of measurement for size is crucial as some measures show a much higher concentration than others. For example, concentration measures based on the number of employees would be lower than that based on total assets if large firms have higher ratios of capital to labor. In concentration studies, sales revenues are usually used as the measurement base for size. Since audit fees represent the sales revenues to audit firms, it should be a suitable base on which supplier concentration can be measured. However, due to the unavailability of information on audit fees, surrogates for audit fees, such as the number or size of audit firms' clients, had been used in all previous studies except

those conducted by Moizer and Turley (1987, 1989) and Tomczyk and Read (1989). In Hong Kong, the disclosure of auditors' remuneration is required in all company accounts. This allows the opportunity to provide additional evidence on auditor concentration measured by audit fees.

Since concentration measures are found to be sensitive to size measurements employed (Eichenseher and Danos, 1981), it is important to understand the effect of the choice of measurement base on the level of concentration. Moizer and Turley (1987) evaluated the usefulness of three possible surrogates for audit fees in concentration studies by comparing concentration measures calculated using four different bases: the number of audits, client sales, the square root transformation of client sales, and audit fees. They found that, concentration measures based on client sales and the square root of client sales provided consistent overestimates and underestimates, respectively, of concentration measures based on audit fees. Therefore, they concluded that these two bases represent upper and lower bounds for market concentration in auditing and should be of use by researchers in countries where audit fee data are not available.

The availability of information on audit fees in Hong Kong makes it possible to examine the general applicability of Moizer and Turley's results. In the present study, concentration measures calculated using the four bases employed in Moizer's study are compared in Hong Kong. Since other bases such as net profits, total assets, and shareholders' funds have been used in other studies (Zeff and Fossum, 1967; Gilling and Stanton, 1978), the effect of these measurement bases on concentration levels is also examined in this study.

Since market structure is not static, it would be more informative to study the changes in concentration over a period of time. The purpose of this paper is to investigate: (a) changes in auditor concentration in the market for audit services between 1980 and 1989, (b) the variation in concentration across industries; and (c) the effect of different bases of measurement on concentration. Since little is known of the structure of the auditing profession in Hong Kong, the results of this study will contribute to a better understanding of the behavior and economic performance of audit firms.

As in previous studies, the present study is limited to a submarket: the publicly listed companies. Since there is a close link between economic prosperity and the performance of publicly listed companies, the study of the audit concentration in the submarket of publicly listed companies is justified.

Methodology

The sample used is composed of all the companies listed on the Hong Kong Stock Exchange[5] in December 1980 (262 companies), December 1984 (278 companies), and December 1989 (298 companies). The earliest year of study was 1980 because a significant number of company reports are not available for earlier years; 1989 was chosen because it is the latest year for which financial reports are available for all companies. A year in between (1984) was chosen arbitrarily.

Only listed companies were studied because the annual reports of unlisted companies are not publicly available. Even for the publicly listed companies, financial

reports are not complete until after the Hong Kong Stock Exchange Ltd. was established in April 1986. The frequent changes in company names make the search for financial reports even more difficult. Sixty, 52, and 53 of the companies listed in 1980, 1984, and 1989, respectively, have had their names changed.

Since no systematic records were kept before 1986, the lists of listed companies in 1980 and 1984 were compiled by using the 1980 and 1984 newspaper listings of stocks and supplemented with any other available auxiliary sources of publications, such as the *Hong Kong Economic Journal Monthly* and *Annual Bulletins* of the four stock exchanges existed at that time. Foreign companies were excluded for two reasons: (l) their financial results are usually reported under the regulation of the country where their main business is located and, therefore, auditors' remuneration is usually not reported; (2) their operating results reported in the financial reports include the worldwide operation of which the operation in Hong Kong usually only forms a minor part. The inclusion of foreign companies may distort the results of the present study which, for the purposes of this study, is confined to the domestic market. However, those companies which changed their domiciles to other countries but retain their major business in Hong Kong and are regarded as domestic companies by the Hong Kong Stock Exchange were included in the study. This, together with the fact that a number of reports are not available for various reasons (e.g., reports are missing or the companies were delisted in the year studied), yielded that only 232, 242, and 279 of the companies listed in 1980, 1984, and 1989, respectively, were studied.

Information on the identity of the companies' auditor, the audit fees, the sale revenues, the net profits, the total assets, and the shareholders' funds of the companies was obtained from the published financial reports of the companies for the accounting periods ending in 1980, 1984, and 1989. Financial information reported in other currencies and those for periods other than 12 months were adjusted accordingly. Where companies incurred net losses, these losses will not be included in aggregating the auditors' net profits to calculate the market shares based on net profits. Otherwise, the inclusion of negative figures in aggregating net profits would understate the market shares measured by net profits. Where a company had two auditing firms as joint auditors,[6] the auditee's audit fees, sale revenues, net profits, and assets were divided equally between the audit firms involved. Companies listed in 1980, 1984, and 1989 were audited by 48, 53, and 36 audit firms, respectively. The data were then rearranged and aggregated according to the companies' audit firms and industry categories.

The industry classification scheme used by the Hong Kong Stock Exchange was adopted in this study to classify the companies into six industrial groups. Although these are rather broad and loose classifications, they are sufficient for our purpose in view of the small number of listed companies in Hong Kong.

Measures of Concentration

Two widely used concentration measures are concentration ratio (CR) and Herfindahl Index (H-Index). The concentration ratio is defined as the percentage of total industry sales (or of capacity, employment, value added, or of physical output) contributed

by the largest few firms, ranked in order of market share. For example, CR4 measures the percentage of total market share accounted for by the four largest firms.

To facilitate comparison of our results with those of previous studies, the concentration ratios at the levels of four firms, eight firms, and 16 firms and the H-Index were calculated for each of the measurement bases. Nine-firm concentration ratio was also calculated in addition to the commonly studied eight-firm ratio because in Hong Kong, the local firm, Kwan Wong Tan & Fong,[7] also has a major share of the market. In the following analysis, the Big Eight firms together with Kwan Wong Tan & Fong is referred to as the Big Nine.

A problem with the concentration ratio is that it measures concentration of the largest few firms and does not consider the size of the other firms in the market. The H-Index overcomes this problem considering all firms in a market as well as their relative sizes. The H-Index is defined as the sum of the squares of the market share percentages of all firms in the industry. The larger the number of firms, *ceteris paribus*, the smaller the value of the index, and the greater the degree of inequality, for a given number of firms, the greater the index (Baldwin 1987, p. 155).

"A market population consists of a number of firms of varying sizes. A single index number cannot encapsulate all relevant aspects of such a population" (Baldwin 1987, p. 155). Therefore, the following analysis of concentration is supplemented by descriptive explanation.

Results

(A) Changes in Auditor Concentration Over the Period 1980–1989

The market shares and concentration measures of the top 16 listed companies' audit firms based on audit fees in 1980, 1984, and 1989, respectively, are summarized in Table 1.

The proportion of the market revenues accounted for by the largest four firms is as high as 0.933 in 1980, but it declined steadily to 0.906 and 0.861 in 1984 and 1989, respectively. On the other hand, concentration ratios for eight firms, nine firms and 16 firms remain quite stable over the nine-year period. An examination of market shares of individual audit firms reveals that the decrease in CR4 was attributed to the large decline in market share of the most dominant firm, Price Waterhouse.

During the period, Price Waterhouse leads by a very substantial margin in each of the three years studied, with market shares doubling and at approximately one and one-half times that of the second ranked firm in 1980 and 1989, respectively. However, its market share is declining from a high of 58.1 percent in 1980 to 44.5 percent in 1989. Next to Price Waterhouse is Peat Marwick,[8] which has maintained a stable market share of an average of 28 percent over the period. Thus, in Hong Kong, the listed companies market for audit services has been dominated by just two firms: Price Waterhouse and Peat Marwick. However, the smaller[9] Big Eight audit firms have been growing rapidly. The aggregate market shares of the Big Eight audit firms other than Price Waterhouse and Peat Marwick have increased from 3.3 percent in 1980 to 13.1 percent in 1989. Since the aggregate market share

Table 1. Auditors of publicly listed companies in Hong Kong: market shares and concentration measures by audit fees (rank is given in parentheses)

Audit firm	Audit fees (%)		
	1980	1984	1989
Price Waterhouse	58.1 (1)	50.4 (1)	44.5 (1)
Peat Marwick	27.8 (2)	28.9 (2)	27.3 (2)
Kwan Wong Tan & Fong	5.1 (3)	8.0 (3)	8.8 (3)
Deloitte Ross Tohmatsu[a]			0.3
Deloitte Haskins & Sells	0.4 (9)	1.4 (5)	5.2
Touche Ross			
			5.5 (4)
Ernst & Young[a]			2.7
Ernst & Whinney		1.4 (6)	1.6
Arthur Young		0.7 (9)	0.8
			5.1 (5)
Coopers & Lybrand	2.3 (4)	3.3 (4)	1.6 (6)
Thomas Le C. Kuen	0.8 (5)		1.4 (7)
H.C. Watt	0.7 (6)	0.9 (8)	1.1 (8)
Arthur Andersen			0.9 (9)
K.K. Young		0.9 (7)	
M.B. Lee	0.5 (7)		
W.M. Sum	0.5 (8)		
Next seven	1.9	2.3	2.3
Others	1.9	1.8	1.5
	100.0	100.0	100.0
CR4	0.933	0.906	0.861
CR8	0.958	0.952	0.953
CR9	0.962	0.959	0.962
CR16	0.981	0.982	0.985
H-Index	0.419	0.346	0.288

[a]In Hong Kong, Ernst & Whinney merged with Arthur Young to Form Ernst and Young on January 1, 1990, and Deloitte Haskins & Sells merged with Touche Ross to form Deloitte Ross Tohmatsu on April 1, 1990. Due to the time lag in issuing auditor's reports, some of the 1989 reports were issued under the names of the merged firms.

of the Big Nine has remained stable over the period, it appears that the growth of the smaller Big Nine firms was largely at the expense of Price Waterhouse.

Although other studies have attributed the increasing concentration in their audit markets to mergers (Gilling, 1985; Moizer and Turley, 1989), the effect of mergers on concentration is not apparent in this study except in the case of Ernst & Whinney and Arthur Young, where the merger seemed to have played a part in the growth of their market shares, moving them to the fifth position in 1989 (Ernst & Whinney was 13th and sixth in 1980 and 1984, respectively, while Arthur Young was 11th and ninth in 1980 and 1984, respectively). However, the fact that Peat Marwick had became a member of Klynveld Peat Marwick Goerdeler (KPMG) in 1987 and Kwan Wong Ton & Fong a member of Binder Dijker Otte (BDO) in 1986 has had no apparent effect on increasing their market shares. This may be attributable to the fact that the firms with which they merged (Klynveld Main Goerdeler (KG) in the case of Peat Marwick, Binder Dijker Otte in the case of Kwan Wong Tan & Fong), unlike the case in Ernst & Whinney and Arthur Young, did not have an established business in the Hong Kong listed companies market.

The H-Index decreased to a much greater extent over the years. As a summary measure, the H-Index accounts for all the firms in the market as well as their size distribution. The decrease from 0.419 in 1980 to 0.346 in 1984 reflects the increase in the number of audit firms in the market (from 48 to 53 audit firms) on the one hand, and the decrease in size inequality between firms on the other hand; while the decrease to 0.288 in 1989 indicates the significance of the effect of decrease in size inequality, which more than offsets the effect of decrease in the number of audit firms in 1989 (36 audit firms).

Analysis of Growth of Smaller Big Eight Audit Firms

As noted previously, there are indications that Price Waterhouse may have been losing its market share to other Big Eight firms, resulting in a decreasing concentration. To analyze this further, the growth of the smaller Big Eight firms, or equivalently, the decline in market share of Price Waterhouse, is examined in two markets: (a) the new clients market, and (b) the old clients market. Over the nine-year period, a large number of companies have been delisted and new companies were listed after 1980. Of the 232 listed companies studied in 1980, only 166 companies were still listed in 1989. The new clients market consists of companies listed after 1980. The old clients market consists of the 166 companies which have been listed on the market throughout the period.

(a) New Clients Market. To analyze the growth of the smaller Big Eight firms in the new clients market, the composition of the audit fees in 1989 of the Big Eight (Big Six after merger) and Kwan Wong Tan & Fong were examined by dividing the audit fees of each firm into those earned from the companies that have been listed throughout the period (the "old clients") and those that came from the companies listed after 1980 (the "new clients"). An examination of Table 2 reveals that the market positions of Price Waterhouse and Peat Marwick are not so strong in the "new clients" group, accounting for only 33.2 percent and 17.3 percent respectively, of the market audit revenues (as compared with 48.7 percent and 30.9 percent respectively, of the "old clients" group). On the other hand, Kwan Wong Tan & Fong and all the smaller Big Eight audit firms, with the exception of Arthur Andersen, all exhibit a higher market share in the "new clients" group than in the "old clients" group. Because of the less dominant position of the leading firm in the new clients market, concentration at the four-firm level is decreased.

Table 3 indicates that the changes in the distribution of market share in the companies first listed in the recent two years is even more pronounced. The top two firms, Price Waterhouse and Peat Marwick, have lost ground greatly in the newly listed companies group. Of the 37 domestic new listings in 1988, Price Waterhouse and Peat Marwick audit only 25.8 percent and 7.6 percent respectively, of the audit revenues. On the other hand, the rate of client acquisition by the Deloitte Ross Tohmatsu group and the Ernst & Young group is remarkable; their market shares are 20 percent and 18.5 percent respectively, in the newly listed group in 1988 (Table 3). The increase in market shares of Deloitte Ross Tohmatsu and Ernst & Young in the companies first listed in 1989 is even more remarkable. Of the six domestic new listings in 1989, two were audited by Deloitte Haskins & Sells and

Table 2. Analysis of the sources of audit revenues of the big nine audit firms in 1980 and 1989

	1980 Audit fees (%)		1989 Audit fees (%)	
	Old clients	Companies listed in 1980 but not in 1989	Old clients	New clients
Price Waterhouse	61.3	43.5	48.7	33.2
Peat Marwick	28.5	24.8	30.9	17.3
Kwan Wong Tan & Fong	5.4	3.8	7.0	13.7
Deloitte Ross Tohmatsu Deloitte Haskins & Sells Touche Ross		} 2.2	} 3.1	12.1
Ernst & Young			} 1.7	14.7
Ernst & Whinney		1.4		
Arthur Young	0.1	1.4		
Coopers & Lybrand	1.1	7.9	1.0	3.1
Arthur Andersen			1.2	0.1
Others	3.6	15.0	6.4	5.8
	100.0	100.0	100.0	100.0

Table 3. Market share distribution of audit revenues from companies newly listed in 1988 and 1989

	Audit revenues (%)			
	1988		1989	
	All new listing	Capital raising new listing	All new listing	Capital raising new listing
Price Waterhouse	25.8	7.2		
Deloitte Ross Tohmatsu	2.2	5.4		
Deloitte Haskins & Sells	17.8	29.2	52.9	69.9
Touche Ross	–	–		
	20.0			
Ernst & Young	10.6	26.5	19.8	26.2
Ernst & Whinney	7.9	5.6		
Arthur Young	–			
	18.5			
Kwan Wong Tan & Fong	14.5	0.6	15.1	3.9
Peat Marwick	7.6	10.0		
Coopers & Lybrand	3.0	7.6		
Others	10.6	7.9	12.2	
	100.0	100.0	100.0	100.0

another two by Ernst & Young. However, the number of new listings in 1989 is too small to allow any proper conclusion. If only the capital-raising new listings were considered (i.e., excluding those by way of reorganization, there were 19 capital-raising new domestic listings in 1988 and five in 1989), there is even a greater contrast between the weakening of the market position of Price Waterhouse and the sharp increase in market share of the Deloitte Ross Tohmatsu and Ernst & Young groups (Table 3).

Table 4. Auditor changes between 1980 and 1989

Big Six and Kwan Wong Tan & Fong	Gain		Loss		Net gain or (loss)
	From Big Nine	From Non-Big Nine	To Big Nine	To Non-Big Nine	
Price Waterhouse	1	2	13	1	(11)
Peat Marwick	4	1	2	1	2
Kwan Wong Tan & Fong	6	6	6	–	6
Deloitte Ross Tohmatsu		1			1
Deloitte Haskins & Sells	5	6			11
Touche Ross	—	1			1
	5	8			13
Ernst & Young	5	5			10
Ernst & Whinney	1	3			4
Arthur Young	—	1			1
	6	9			15
Coopers & Lybrand	1	1	3	2	(3)
Arthur Andersen	1	1	—	—	2
Total	24	28	24	4	24
Others	4	11	28	11	(24)
Grand total	28	39	52	15	–

(b) Old Clients Market: Analysis of Auditor Changes. As revealed in Table 2, the leading firm Price Waterhouse lost market share also in the "old clients" group. To analyze further the changes in market share in the "old clients" group, auditors of the 166 "old clients" companies in 1980 were compared with their auditors in 1989 and auditor changes are summarized in Table 4. Table 4 shows only the total change between 1980 and 1989 and does not include those changes which may have occurred within the period. Of the 166 companies listed in both 1980 and 1989, 67 companies have changed auditors at least once since 1980. The results confirm that Price Waterhouse is the biggest loser: three audits were gained but 14 audits were lost, 13 of which were lost to the other Big Nine firms. On the other hand, the Deloitte Ross Tohmatsu group and the Ernst & Young group have fared extremely well during the period: 13 and 15 audits, respectively, were gained but no audit loss. Therefore, the decreasing concentration at the four-firm level is partly attributed to the loss of clients of the leading firm.

Comparison with Results in the United States

To compare the patterns of auditor concentration in a growing market with that of a matured market such as the United States, Table 5 summarizes the results of a recent study in the United States and the results from the present study. Only one previous US study is presented because other studies did not use audit fees as the measurement base and hence direct comparison cannot be made. As reported in Table 5, the concentration at the four-firm ratio in Hong Kong is very much higher than that in the United States. However, as noted earlier, the higher concentration in Hong Kong is mainly attributed to the dominance of the top two firms, which together accounted for over 70 percent of the total market share. In the United States, market shares are found to be relatively stable and much more evenly distributed among the Big Eight, with the top two firms accounting for an average of about 27 percent of

Table 5. Cross-study comparisons: Hong Kong and US auditor concentration measures

	Concentration Ratios																							
Study	CR4								CR8 or CR9								CR16							
	1980	'82	'83	'84	'85	'86	'87	'89	1980	'82	'83	'84	'85	'86	'87	'89	1980	'82	'83	'84	'85	'86	'87	'89
									CR8: 0.958			0.952				0.953								
Present study (HK)	0.933			0.906				0.861	CR9: 0.962			0.959				0.962	0.981			0.982				0.985
Tomczyk & Read (US)			0.511	0.510	0.496	0.488	0.518		CR8:		0.842	0.835	0.824	0.822	0.861				0.971	0.972	0.970	0.972	0.976	
																	H-Index							
																	1980	'82	'83	'84	'85	'86	'87	'89
Present study																	0.419			0.346				0.288
Tomczyk & Read																			0.096	0.095	0.093	0.092	0.100	

Table 6. Market shares and concentration measures by audit fee for different client industries (rank is given in parentheses)

	1989 audit fees (%)					
	Consolidated enterprises	Finance	Properties	Industrials	Hotels	Utility
Price Waterhouse	62.2 (1)	49.8 (1)	12.9 (3)	28.8 (1)	17.7 (2)	23.9 (3)
Peat Marwick	16.9 (2)	46.4 (2)	22.4 (2)	10.4 (5)	46.5 (1)	48.7 (1)
Kwan Wong Tan & Fong	4.1 (3)	0.9 (5)	29.6 (1)	16.8 (2)	8.5 (4)	
Deloitte Ross Tohmatsu	0.5		0.2	0.6		
Deloitte Haskins & Sells	3.0	0.3 (6)	11.4	13.0		27.4 (2)
Touche Ross			0.2			
	3.5 (5)		11.8 (4)	13.6 (4)		
Ernst & Young	2.5	1.0 (3)	4.6	5.4	7.8 (5)	
Ernst & Whinney	1.2		2.6	4.8		
Arthur Young	0.3		0.7	4.1		
	4.0 (4)		7.9 (5)	14.3 (3)		
Coopers & Lybrand	2.0 (8)			4.0 (6)	10.1 (3)	
Thomas Le C. Kuen	3.0 (6)				2.7 (7)	
H.C. Watt			5.2 (6)			
Arthur Andersen		0.9 (4)	3.8 (7)			
Fan Mitchell	2.0 (7)					
Li, Tan Chen		0.3 (7)				
Lui & Mak		0.3 (8)				
Edward Wan				2.8 (7)		
H.L. Leung				2.3 (8)		
Baker Tilley			2.2 (8)			
F.S. Li					6.7 (6)	
Others	2.3	0.1	4.2	7.0	–	–
Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of client Co.[a]	67	28	95	64	12	8
CR4	0.872	0.981	0.767	0.735	0.828	1.000
CR8	0.977	0.999	0.958	0.930	1.000	
H-Index	0.422	0.464	0.181	0.169	0.276	0.369

[a]The discrepancy between the total number of client companies in this table (274 companies) and the total number of listed companies studied (279 companies) is because five companies cannot be classified as one of the six industries.

the market for the period 1983–1987 (Tomczyk and Read, 1989). The much higher H-Index in Hong Kong is partly attributed to the highly unequal distribution of market shares among the audit firms and partly due to the smallness of the Hong Kong audit market.

It was found in other studies that auditor concentration in the United States after 1987 has been increasing as a result of megamergers (Wootton et al., 1990; Minyard and Tabor, 1991). In contrast, the auditor concentration in Hong Kong has been decreasing.

(B) Specific Industry Concentration

As in previous studies (Zeff and Fossum, 1967; Moizer and Turley, 1989), the degree of concentration in individual client industry groupings was ascertained here. To obtain a reasonable number of company observations in each group, the six industry classifications used by the Hong Kong Stock Exchange Ltd. were adopted. Since

Table 7. Summary of concentration ratios for different measurement bases

	Audit fees		
	1980	1984	1989
CR4	0.916	0.863	0.811
CR8	0.948	0.933	0.937
CR9	0.953	0.944	0.947
CR16	0.975	0.975	0.981
H-Index	0.415	0.311	0.230

	Untransformed			Square root		
	1980	1984	1989	1980	1984	1989
Client's turnover						
CR4	0.918	0.880	0.855	0.797	0.775	0.753
CR8	0.953	0.962	0.963	0.876	0.883	0.922
CR9	0.958	0.967	0.972	0.886	0.893	0.930
CR16	0.983	0.988	0.991	0.936	0.934	0.967
H-Index	0.356	0.330	0.240	0.242	0.208	0.201
Clients net profits						
CR4	0.932	0.917	0.879	0.817	0.799	0.784
CR8	0.964	0.964	0.975	0.893	0.887	0.927
CR9	0.968	0.969	0.981	0.902	0.899	0.942
CR16	0.990	0.988	0.995	0.949	0.945	0.974
H-Index	0.314	0.313	0.241	0.235	0.216	0.218
Client's total assets						
CR4	0.920	0.910	0.878	0.783	0.777	0.778
CR8	0.967	0.955	0.966	0.875	0.867	0.927
CR9	0.970	0.962	0.974	0.885	0.879	0.936
CR16	0.983	0.982	0.995	0.926	0.924	0.971
H-Index	0.319	0.286	0.244	0.218	0.196	0.207
Client's shareholders' fund						
CR4	0.936	0.886	0.880	0.790	0.759	0.780
CR8	0.967	0.946	0.969	0.876	0.853	0.927
CR9	0.970	0.953	0.976	0.883	0.868	0.935
CR16	0.984	0.981	0.995	0.925	0.919	0.968
H-Index	0.342	0.254	0.244	0.221	0.185	0.207

	Number of audit clients		
	1980	1984	1989
CR4	0.606	0.618	0.658
CR8	0.733	0.726	0.873
CR16	0.836	0.830	0.941
H-Index	0.166	0.158	0.140

CR9 is not calculated because more than one firm have an equal number of clients

there is no comparable industry classification prior to 1986, the concentration of industry in 1989 only was studied. The results are summarized in Table 6. Of the six industry groups, three showed higher levels of concentration than that of the whole sector of listed companies, suggesting that some industrial specialization by audit firms may be present. Concentration is highest in the Utility category, in which all the eight utility companies were audited by only three audit firms. Next highest in concentration is the Finance sector: 96.2 percent of the market was almost equally shared by Price Waterhouse and Peat Marwick. The overall leading firm, Price

Waterhouse, leads in the Consolidated, Finance, and Industrial groups. The company's position is particularly strong in the Consolidated group. Peat Marwick leads in the Hotel and Utility industries, while Kwan Wong Tan & Fong leads in the Property sector. As 65.8 percent of total audit fees for the listed companies market was earned from the Consolidated and Finance group, the leading position of Price Waterhouse in these two groups accounted for its overall top ranking.

(C) Other Bases as Measures of Concentration

To evaluate the usefulness of other variables as measures of concentration, only companies with complete information on all the variables studied were selected. Thus, companies which did not report sales or any of the other variables were excluded.[10] In total, 28, 22, and 16 companies were excluded in 1980, 1984, and 1989, respectively. Concentration ratios using other measurement bases are summarized in Table 7.

Consistent with Table 1, concentration at the level of four firms decreases steadily from 1980 to 1989 for all untransformed variables and the concentration at eight, nine and 16 firm levels is quite stable. Consistent with Moizer and Turley's (1987) results, in comparison to the concentration measures based on audit fees, concentration measures based on client sales and its square root transformation always provide overestimates and underestimates, respectively, of concentration, except the H-Index in 1980. However, concentration measures based on all the other variables and their square root transformations also provide consistent overestimates and underestimates, respectively, with only one or two exceptions. It seems that other variables are as good a proxy for audit revenues as sales.

Finally, concentration ratios based on the number of audit clients were calculated and are found to be much lower than those based on audit fees or the other variables. This is consistent with other findings showing that the number of audits is a poor surrogate because it assumes that all audits have the same fee (Moizer and Turley, 1987).

Discussion

The changes in market concentration in Hong Kong and the different patterns of auditor concentration in Hong Kong and the United States may be explained in the context of the stage-of-growth cycle.

The stage-of-growth cycle is derived from the concept of a product life cycle. Growth of a market may be divided into four stages: (1) emergence, (2) growth, (3) maturity, and (4) decline. In the case of the audit market, there will be no decline stage as long as company accounts are required to be audited.

The Hong Kong audit market, with the entry of new competitors and frequent changes in market shares among the audit firms, features a rapidly growing market. Initially, there were only two dominant pioneer Big Eight firms: Price Waterhouse and Peat Marwick (possible factors accounting for the initial dominant positions are discussed later). As Hong Kong grows into an international trade and finance center, the demand for audit services increases rapidly. The prospect of increasing profits

would attract entry of new competitors. This is evidenced by the entry of the smaller Big Eight firms into the Hong Kong market in the 1960s and 1970s.[11] The new competitors increase their market shares in two ways: (1) by competing away the old clients of the leading incumbent firm, and (2) by attracting clients from the new clients market. How did the smaller Big Eight firms gain clients (e.g., by charging lower prices or by providing superior services) remains to be explored in future research.

As the market share of the leading firm declines and the distribution of market share among audit firms becomes more equal, auditor concentration is decreased. This is consistent with the general pattern observed in a growing market. In contrast, the audit market in the United States is in the maturity stage which is characterized by slower growth in sales (*Wall Street Journal*, January 14, 1991) and the relatively stable market shares between audit firms (Tomczyk and Read, 1989). Slower growth and the resulting overcapacity (*Wall Street Journal*, November 20, 1990) lead to intensified competition and audit firms become more actively engaged in price cutting (Stevens, 1988) in order to obtain new business. Some of the price cutting may be predatory in that it may be a device to eliminate competitors from the market in the hope of maintaining monopoly power and increasing profits in the long run. With less resources and usually higher costs, smaller firms will be driven out of business. Laventhol & Horwath and Spicer & Oppenheim may be victims of the price war. On the other hand, in an effort to attain or maintain market power, a number of audit firms have resorted to mergers. This is evidenced by the wave of merger activities which has swept through the public accounting profession in the last five years.[12] As a result of such mergers and predatory price cutting, auditor concentration in the United States has increased in recent years (Wootton et al., 1990; Minyard and Tabor, 1991). If the growth of the audit market continues to decline and the market becomes more competitive, the possibility of mergers between the remaining lone Big Six firms will be higher and predatory pricing will become more active. As a result, there is a potential for further concentration in the United States audit market.

On the other hand, in Hong Kong, there is no indication of using mergers to build monopoly power since the mergers did not result in an appreciable increase in market shares of the merged firms. Therefore, the mergers between Big Eight firms in Hong Kong are largely to follow international movements.

If the growth trend of the smaller Big Six firms continues, it can be anticipated that auditor concentration in Hong Kong will continue to decrease as market shares become more evenly distributed among audit firms. When the market reaches the maturity stage of slower growth, market share will become more stable. Patterns of competition and auditor concentration found in the United States may occur.

Presently, the Hong Kong market appears to be undergoing adjustments similar to those which occurred in the United States decades ago. The gradual lessening of the discrepancies in market share between individual Big Eight Firms in Hong Kong in the 1980s roughly parallels that observed in the United States for the period 1932–1950. Wootton et al. (1990), reported that in 1932, Price Waterhouse audited twice as many New York Stock Exchange companies as the next ranked firm and six times that of the eighth ranked firm, but in the mid-1950s, Price Waterhouse audited only one and one-half times the number of companies as the second placed firm and four times the eighth ranked firm. This provides further evidence that the

United States and the Hong Kong audit markets are at different stages of the growth cycle.

Despite the decreasing auditor concentration found in Hong Kong, one cannot be relieved of the concern of the monopoly power possessed by the dominant firms. Further research should be conducted to study the association between the size of audit firms and their behavior and economic performance.

A knowledge of the causes for auditor concentration will help one understand the behavior of audit firms, for example concerning pricing practices. Thus, in a rapidly growing market for audit services where auditor concentration is decreasing, firms may not have to lower their audit fees in order to obtain business so long as demand is increasing. On the other hand, an increase in auditor concentration may not result in higher prices if market growth is decreasing and competition is keen. If a firm achieves high market shares through economies of scale, audit fees charged by large firms may remain low. But if auditor concentration results from "governmental regulations of audit firms" clients (Danos and Eichenseher, 1982), monopoly price may be charged. Therefore, depending on the causes for auditor concentration, higher concentration may not necessarily lead to higher prices. The finding of stage-of-growth cycle as a possible cause for auditor concentration will contribute to a better understanding of the behavior of audit firms.

The results of specific industry concentration show that the dominant market share of the two leading firms may be partly attributed to their international network of business and reputation. This is evidenced by the dominance of Price Waterhouse and Peat Marwick in the Consolidated Enterprises, Finance, and Hotels sectors, in which businesses are more internationalized. On the other hand, companies in the Industrial and Property groups are more localized and would prefer to select a local firm such as Kwan Wong Tan & Fong as an auditor. This may account for the ability of Kwan Wong Tan & Fong to maintain its third rank position throughout the period.

Perhaps a more important factor is the long histories of the leading firms. Price Waterhouse, formerly known as Lowe Bingham & Mattews, was founded in Hong Kong in 1902 and was already the leading firm in Hong Kong as early as the 1910s. With such a long history, Price Waterhouse naturally has many established clients and this may account for its dominant position in the market. Peat Marwick, the Big Eight firm with the second longest history in Hong Kong, opened its office in Hong Kong in 1945.

The lack of information of the UK audit market prevents one from drawing inferences about the degree of maturity of the UK market. However, with the long history of the UK market, it would be expected to be at a different stage of the growth cycle than Hong Kong. The applicability of the UK results on the usefulness of surrogates as measures of concentration in a different market setting, such as Hong Kong, is strong evidence of the generalizabilty of Moizer and Turley's results.

Conclusion

This paper has examined the changes of auditor concentration in the Hong Kong market for audit services over the period 1980–1989. The results show that the Hong

Kong audit market is dominated by only two firms, but market concentration has been decreasing. The pattern of auditor concentration found in Hong Kong is consistent with what would be expected in a rapidly growing market. On the other hand, the features of the audit market in the United States correspond to that of a mature market. Thus, in addition to other causes of market concentration identified in previous studies, such as mergers (Gilling, 1985; Moizer and Turley, 1989), and economies of scale (Eichenseher and Danos, 1981; Danos and Eichenseher, 1982, 1986), the stage-of-growth cycle may be another cause of supplier concentration in the market for audit services. This information can contribute to a better understanding of the behavior of audit firms in terms of pricing practices and the quality of audit services.

A limitation of the present study is that it was limited to listed public companies which are generally larger. Concentration measures found in this study may be biased upward as large audit firms are usually associated with large companies. (Dopuch and Simunic, 1980). However, it will not affect the general pattern of auditor concentration found in this study.

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Notes

1. The firms which formed the Big Eight are: Arthur Andersen, Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, KPMG Peat Marwick, Price Waterhouse, and Touche Ross.
2. Despite the critcism of the structure–conduct–performance approach in recent years, "the structure of an industry or market is by far the most important, though not the sole, determinant of business conduct" (Baldwin, 1987, p. 119).
3. This is evidenced by the slower sales growth (*Wall Street Journal*, January 14, 1991) and the overcapacity reported in the United States. Overcapacity is indicated by the reduction of partners by KPMG Peat Marwick in 1991 (*Wall Street Journal*, January 14, 1991) and the report of unused office space for Laventhol &Horwath (*Wall Street Journal*, November, 20 1990).
4. This is indicated by the entry of new competitors which may have been attracted by the potential growth and increasing profitability of the market. The rapid growth of Hong Kong market is further evidenced by the more than five-fold increase in audit revenues and client sales over the period 1980–1989. In comparison, the audit revenues in the United States in 1987 were one and a half times that in 1983 (Tomczyk and Read, 1989) and clients' revenues increased five-fold over the period 1971–1989 [Wootton et al., 1990].
5. The sample of listed companies in 1980 and 1984 are those which were listed in the four exchanges that existed at that time. They were combined in 1986 to form the present Hong Kong Stock Exchange.
6. Joint audits are quite common in Hong Kong. In total, excluding the foreign companies, there were nine joint audits in 1980, 11 in 1984 and 15 in 1989.
7. Kwan Wong Tan & Fong, though a member of an international overseas firm, Binder Dijker Otte, is of local origin and can be regarded as a local firm.
8. Although internationally, Peat Marwick is a member of KPMG, for the purposes of this study it is referred to here as Peat Marwick.
9. They are smaller in terms of their market shares in the Hong Kong Market
10. These are mainly banks which are exempted from disclosing their turnover by the provisions of Part III of the Tenth Schedule to the Companies Ordinance. As summarized in Table 7, the effect of the exclusion is reflected in the lower concentration measures based on audit fees (as compared with that presented in Table 1) because the Finance sector, as analyzed previously, has a level of concentration higher than that of the whole submarket of listed companies.
11. Coopers & Lybrand opened its office in Hong Kong in 1962 and Arthur Young in 1965. The other Big Eight firms opened their offices in Hong Kong in the early 1970s.
12. *Wall Street Journal*, June 19, 1989.

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Schmidt, Limperg and the Dissemination of Current Cost Accounting in the Netherlands

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Key words: Current cost accounting; Accounting history; Netherlands

Abstract: *Studies on the development and international dissemination of current cost accounting show some uncertainty regarding the relation between the views of Theodore Limperg, of the Netherlands, and Fritz Schmidt, of Germany. Elucidation of this matter has been hindered by the lack of materials in English on the context as opposed to the content of Limperg's ideas. This paper documents how Schmidt's views became known in the Netherlands ahead of those of Limperg, and explains how, nevertheless, Limperg came to be recognized as the moving force behind Dutch current cost accounting. Since the Netherlands has figured prominently in the English-language literature on current cost accounting, a proper appreciation of Limperg's influence in the Netherlands remains necessary despite Schmidt's indisputable chronological precedence.*

1. Introduction

Recent English-language publications indicate the existence of some uncertainty outside the Netherlands as to the contributions of Th. Limperg to accounting theory. A certain revisionist strain can be detected in the literature that argues for the chronological primacy of Schmidt over Limperg in developing current cost accounting, and hence maintains that Schmidt, rather than Limperg, ought to be considered as the European origin of current cost accounting.[1]

Uncertainty about Limperg abroad can be explained at least in part by the way his views have been presented in English. Treatises on Limperg, many of which were written by his supporters, tend to describe the final formulation of his theories, and are generally short on the development of his thinking over time and its relation to rival visions. Presenting Limperg's views without their historical context is understandable given that Limperg himself attempted to construct a more or less timeless theory of universal validity, but may not be conducive to a proper understanding by those who are unfamiliar with that context.

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This paper is an attempt to shed some more light on the development of Limperg's ideas. It does not challenge the claims for Schmidt's precedence (for which, in fact, it adduces what would seem to be incontestable evidence). Rather, this paper addresses the concomitant question of how Limperg's name could become strongly associated with Dutch current cost accounting, even though Schmidt had approximately a 10-year lead in propagating quite similar ideas that were, from the beginning, well known in the Netherlands.

The argument is that, by the mid-1930s, Schmidt's work was well known in the Netherlands and had contributed to the acceptance of current cost accounting as a potentially useful concept. However, in academic circles, Schmidt's theoretical justifications for current cost accounting were generally found to be insufficient. When, at that time, Limperg presented his views, he did not claim to have invented current cost accounting but to provide just this theoretical foundation that Schmidt was judged to have failed to give. Hence, there arose a fortuitous conjunction of:

- an accounting culture that was already reasonably familiar with current cost accounting;
- a domestic defender of the concept who not only brought new theoretical support, but whose position within the auditing and academic communities also ensured that his views received sufficient attention;
- inflationary circumstances that gave current cost accounting new practical relevance.

Apart from presenting this reconstruction of events, a secondary purpose of this article is to show some of the richness of developments in accounting in the Netherlands before World War II. It indicates the existence of a quite extensive pre-war non-Limpergian Dutch literature on valuation and income determination. The article aims to convey the impression that Limperg was certainly not working in a vacuum, but that he developed his theory in an environment that was, largely because of Schmidt, not unaccustomed to the idea of accounting for changing prices.

2. Some Aspects of Dutch Accounting Before Schmidt

When Schmidt's main work on current cost accounting, *Die organische Bilanz im Rahmen der Wirtschaft* was first published in 1921, the Netherlands was reasonably well prepared to receive this challenge to the traditional "historical cost" approach. There was an auditing profession that, from the early years of the century, had shown a considerable interest in analyzing and improving the practice of accounting and auditing. During the first two decades of the century, a high level of intellectual activity was displayed in the three Dutch journals dealing with accounting, in numerous monographs and at the frequent study meetings convened by the organizations of auditors. In the early 1920s, activity in this area further increased: four more journals devoted wholly or to a considerable extent to accounting and auditing were started, and new academic chairs in *bedrijfseconomie*[2] were created, indicating the growing interest in more theoretical approaches to subjects like accounting. More specifically,

the professional literature had, in the period before and during World War I, already displayed an embryonic tendency towards alternatives for strict historical costs.[3] According to one well-known article, such alternatives might include the valuation of assets and liabilities at present value.[4] A temporary War Profits Tax, introduced in 1916 and intended to siphon off excess profits, stimulated further reflection on the nature of income in times of rising prices.[5] One of the more important contributions to the war-profits literature was made by the Dutch professor, J.G.Ch. Volmer (1865–1935), who proposed a kind of base-stock method for the elimination of realized holding gains from income.[6] This was later considered one of the most prominent signs that the topic of accounting and changing prices had received serious attention in the Netherlands prior to and independent of the German inflation-induced theories.[7]

At best, though, these early stirrings indicate a willingness to consider alternatives to historical costs for a variety of practical reasons, but lacking a unifying theoretical framework.

3. The Introduction of Schmidt's Ideas in the Netherlands

It seems that it was the inflation following World War I that lifted the discussion on valuation from the level of occasional and hesitant groping to one of more intensive and systematic theorizing. The Netherlands never experienced the severe hyperinflation that occurred in Germany. In a short post-war boom lasting from 1918 to 1920, the Dutch wholesale price index reached a maximum of 392 (1913 = 100), but then fell to 155 at the end of 1922. The index continued to fluctuate in the range of 140–160 until 1927.[8] This relative tranquility provided a complete contrast to the almost billion-fold increase in prices witnessed in Germany over 1922 and 1923. In the period 1921–1924, there was extensive attention in the Dutch professional literature to accounting under inflationary circumstances in direct response to occurrences in Germany.[9] In this literature, the name of Schmidt starts to be mentioned in 1923. Schmidt's 1921 publication was not, at that time, reviewed in the two journals then in existence, and it is somewhat remarkable that a review of the German *Scheingewinne* (phantom profits) literature written by a German, Stern, in 1922 does not contain any references to Schmidt.[10]

Judged on the basis of the numerous credits to this effect in the literature, it seems that the work of the Dutch auditor M. Van Overeem was the single most important channel through which the Dutch were made aware of Schmidt. Van Overeem, a self-proclaimed disciple of Schmidt, propagated Schmidt's organic theory in speeches and lectures, possibly already in 1922 but certainly in 1923, and finally published an extensive account of the theory in a textbook on company finance in 1924.[11] Another Dutch author who drew attention to Schmidt in the Dutch literature, was A.J.W. Renaud, who, in a number of articles and a monograph published in 1923 and 1924, discussed both index-type adjustments and Schmidt's current cost system.[12] Despite their importance, one should not conclude that the Dutch were acquainted with Schmidt only through these intermediaries. Schmidt himself published an article in Dutch in 1923,[13] which, however, was seldom referred to by Dutch

authors. References to Schmidt by academics all refer to the original German versions of his books. The ability to read German is common in the Netherlands, and it is not unusual to find long quotes in German in the literature on Schmidt. In all, the years 1923 and 1924 show a keen awareness of and a quite lively debate on Schmidt in the Dutch literature, which went on sporadically during the remainder of the 1920s.[14]

The spread of Schmidt's ideas may be further appreciated by their appearance in a number of practical contexts:

- In 1923, a court pronouncement in an income tax case was discussed in the tax literature with references to Schmidt's work.[15]
- The benchmark state-sponsored accounting qualification required knowledge of the "static, dynamic and organic balance sheet conceptions" as part of its examination program at least as early as 1925.[16]
- The main Dutch auditing organization, the NIvA,[17] revised its professional examination program in 1931. Schmidt's presentation of his current cost proposals at the 1926 Amsterdam Accounting Congress [18] was included in the "essential reading" for the examinations, while the 1929 edition of *Die Organische Tageswertbilanz* was "recommended".[19]

But apart from Van Overeem, there were apparently few genuine enthusiasts for Schmidt's views in the Netherlands. It was remarked that, by 1930, his views had "not gained acceptance commensurate to their renown".[20]

This opinion on Schmidt is worth noting, since it was expressed by M.J.H. Cobbenhagen, a perceptive academic at the University of Tilburg, one of the three academic departments of *bedrijfseconomie* then in existence in the Netherlands. In Cobbenhagen's view, the practical usefulness of Schmidt's accounting recommendations was recognized in the Netherlands. That they were not widely practiced was because of the absence of severe inflation, and because their effects could, approximately, also be achieved by other means such as a judicious use of secret reserves and the base-stock method. Schmidt's work was, however, not merely seen as an accounting technique, but as an attempt to formulate a coherent economic theory of enterprise income, and it was in this respect that his work was found wanting, not only by Cobbenhagen, but by others as well.

Criticisms of Schmidt in the literature rarely deal with his more concrete accounting proposals, but instead deal at length with the economic aspects of his work. Issues on which Dutch authors disagreed with Schmidt included:

- Schmidt's repeated assertion that application of his recommendations would lead to elimination of the business cycle. This was alleged to be based on an insufficient and too naive an understanding of the nature of cyclical economic movements.[21]
- Schmidt was alleged to base himself on a static and therefore unrealistic notion of the firm. Neither the demand for the maintenance of the relative position of the firm nor the requirement to maintain physical capital was found to be properly motivated.[22]

In all, one senses, at least among academics, a certain disappointment: despite its undeniable merits, Schmidt's work was "not the definitive and lucidly deliberated step in a new direction of the development of the doctrine of the firm and the enterprise".[23] However, this did not in any way prevent the fact that each year, accounting and auditing students studying in various programs were brought to at least a nodding acquaintance with current cost accounting as proposed by Schmidt.

It is this state of affairs that should be kept in mind when assessing the reception of Limperg in the Netherlands. Schmidt's work had given current cost accounting a place in the mind of Dutch accountants. But since he was judged to have failed to provide current cost accounting with a sufficient theoretical foundation it was possible for someone else, not to reinvent current cost accounting, but to reattempt the formulation of the desired theoretical background.

4. Limperg's Activities until the Beginning of the 1930s

Thus far, it has been possible to discuss developments in the Netherlands without reference to Limperg. In the light of his later dominance of the area of current cost accounting, it is perhaps surprising to see that during the 1920s Limperg simply did not play any role at all in the relevant literature. Authors, such as Van Overeem and Renaud, whose names presumably would be meaningless to the majority of today's auditors and accounting academics in the Netherlands, were most active in the literature on accounting and changing prices.

Limperg's active life started around 1901, when he began work as an auditor at the age of 22, and ended with the gradual cessation of all activities during the 1950s. Two major stages can be distinguished in his career. From 1901 until 1922, he was active as an auditor and played a leading role in shaping the organized life of the auditing profession. It would be hard to overestimate his impact during this period, and, though not without occasional strong opposition, he was unquestionably the single most influential member of the Dutch institute of auditors, NIvA. In 1922, he was made a professor in *bedrijfseconomie* at the Municipal University of Amsterdam. Although he continued to play an important role in the NIvA, he discontinued the practice of auditing and devoted most of his time to developing and teaching *bedrijfseconomie.* Although Limperg published numerous short articles before 1922,[24] it was in the period of his professorship that he developed his major theoretical work, including the theory of current cost accounting.[25]

Limperg was later to claim that in the period 1910–1920, he had already defended the use of current market prices over historical cost,[26] a claim upheld by Van Seventer[27] and Van der Schroeff[28] and challenged by Clarke and Dean.[29] What happened was that Limperg made a number of contributions to the "experimental" literature on alternatives to strict historical costs that developed, as indicated earlier, during the 1910s. It is apparently from the perspective of cost accounting that he first considered the use of market prices in accounting. In a lecture of 1913 or 1914,[30] Limperg emphasized that costing was not in the first place an attempt to allocate the sum of

all recorded expenditures, but that cost figures had to be calculated in order to assist in the determination of selling prices and in assessing the economic position of the enterprise. The drift of the lecture is that it may be useful to introduce so-called "fictitious amounts" into the records, that is, amounts not corresponding to actual (past) expenditures. One example mentioned by Limperg would be to use market prices in recording the transfer of raw materials from the inventory account to the work in process account. As a result, the trading account would in the end show an income based on replacement cost. At the balance sheet date, remaining stocks of raw materials would be valued at historical cost, and the balance, equal to realized holding gains, would be transferred to the profit and loss account. There is no evidence that at this time Limperg was considering the possibility of using current costs in the balance sheet and of collecting unrealized holding gains in a separate reserve account, nor does he show concern over the possible distribution of realized holding gains as dividends.

In this and a number of other publications from the 1910s,[31] Limperg showed that his main concern at this time was not accounting for inflation or changing prices. Rather, he attempted to clear the cost-price from irregularities, including seasonal fluctuations, overtime, and incidental price changes.

In all, the publications seem to be only tenuously related to Limperg's later theory. He evidently envisaged the possibility of calculating a "trading income" on the basis of current entry prices, and he claims to have advised some firms to maintain their records that way,[32] but there is no hint whatsoever of his later attempt to found such a practice on a theory of value and a theory of the firm. The approach is one of constructing cost data that is most helpful to management in obtaining insight into the economic position of the firm.

Limperg's first academic classes started in the fall of 1922. Only the broadest outline of the nature of his early lectures is known, but there are indications that it took a number of years for his system of *bedrijfseconomie*, including the theory of value and income, to develop. Van der Schroeff mentions 1924 and 1925 as years in which Limperg devoted much time to developing his theory.[33] One of the first public indications that Limperg was working on a value theory appeared in November 1925. In the "Questions & Answers" section of the journal *Maandblad voor Accountancy en bedrijfshuishoudkunde,* of which he was an editor, Limperg indicated in an aside that "modern value theories and concepts do not offer a satisfactory solution for the phenomenon of value in production. An exposition of my own point of view would, however, take too much room and time".[34]

But whatever the state of completion of Limperg's theory in 1925, Limperg's name is not mentioned at all in the literature on Schmidt's work throughout the 1920s. Reviews of income or balance sheet theories[35] mention Van Overeem or perhaps Volmer, but not Limperg. In the late 1920s, Limperg was a leader of the auditing profession and a respected academic whose reputation made him a member of government commissions on the regulation of the auditing profession and company law reform in 1928 and 1929, respectively. He was not to be easily overlooked. But there is no indication that outside the classrooms of the University of Amsterdam his name was associated at all with a specific income or valuation theory, or with accounting for inflation.

5. Limperg and Current Cost Accounting

In section 3, it was argued that, around 1930, current cost accounting in general and Schmidt's proposals in particular had been incorporated into the stock of common accounting knowledge. From a practical point of view, though, the absence of inflation meant that there was no pressing need for its application. From a more academic point of view, Schmidt's work was considered as an interesting and original, but insufficient attempt to further the development of a proper theoretical justification for current cost accounting.

During the next two decades, Limperg's fresh attempt to provide current cost accounting with a theoretical foundation became more widely known, while at the same time a succession of external circumstances renewed practical interest in the subject. In an accounting community already accustomed to the general drift of Schmidt's ideas, the combined effect was that around 1950 current cost accounting appeared to be highly relevant and was firmly associated with the name of Limperg.

As indicated in section 4, Limperg had been developing his own theory of value, with the implication of current cost accounting, during the 1920s. This so-called "theory of value and income" will not be discussed here in detail, as other accounts in English are available.[36] Some of the more salient characteristics of the theory were:

– It was part of a large body of theory on *bedrijfseconomie*, which took its starting point in a theory of value. On this were based extensive reflections on cost accounting and a theory of income, while there were also substantial contributions on finance, organization and management, and labor relations that were less directly related to value theory.

– The value theory was based on a "value to the owner" concept of value derived from the Austrian school of economics.

– Calculating income on the basis of current cost was presented as the logical consequence of applying a correct value concept, not as a means of complying with an axiomatic norm of capital maintenance. However, Limperg also supplied a theory of the firm that explained how current cost based income calculation and income distribution, and the resulting capital maintenance, served to maintain an economically rational continuity in the social organization of production in the context of a market economy.

Unlike Schmidt, Limperg did not make his theory available in the form of a monograph or even in journal articles. The medium through which Limperg's views were disseminated was personal instruction, both at the Municipal University of Amsterdam and through the NIvA.

By approximately 1930, Limperg had trained a first generation of university students in his theory of value and income. It is these "disciples," as they are usually referred to, who first made Limperg's views accessible to the general public. The credit for giving the first exposition of Limperg's views presumably should go to Abram Mey (1890–1971), who published, in 1931, a critical comparison of Schmidt's organic income theory with Limperg's replacement value doctrine.[37] For this purpose,

the article contained an outline of Limperg's theory. In 1934, a much more extensive exposition of Limperg's views appeared in a textbook on *bedrijfseconomie* written by another Limperg student, S. Kleerekoper (1893–1970).[38]

Limperg and some of his students were also active in the educational program of the NIvA. Limperg had presided over the NIvA's Examination Bureau until 1929 and remained an examiner in *bedrijfseconomie* until 1948. His students, A. Mey and H.J. Van der Schroeff (1900–1974), were instructors in the NIvA programme. Although certainly not all the educational staff in the NIvA came from the Limperg school, his presence was sufficiently strong to make current cost accounting a prominent part of the curriculum.

This educational effort by Limperg and his students made its influence steadily, but slowly felt. By the mid-1930s, the cumulative total of graduates from the economics department of the University of Amsterdam was still a small number, probably not exceeding 200. Those specializing in *bedrijfseconomie* were a minority among them. Yearly graduates from the NIvA numbered a few dozen. Outside this relatively small circle, one had to rely on the publications by Limperg' s students to learn about Limperg's views, as appears from a review of Kleerekoper's 1934 book:

> Special emphasis is placed, in this book, on the theory of "replacement value," and in the preface it is announced in muscular language that this theory, together with other related issues, should be credited to professor Limperg. Although this is "generally known" according to Mr. Kleerekoper, I have to confess my complete ignorance, I know nothing about this. I thought that "replacement value" or reproduction value has been set forth by a German author in times of inflation, and afterwards lucidly propagated in our parts by Mr. Van Overeem.[39]

The reviewer, A. Sternheim, was chief and assistant editor of two journals and a prominent NIvA member who had worked with Limperg within the NIvA in various committees. If someone like Sternheim claimed, even if only rhetorically, not to know about Limperg's replacement value theory, one may safely assume that knowledge of that theory was not widespread despite Mey's 1931 article.

Thus, it might have been expected that any impact from Limperg's views would come only slowly, if at all. However, from the late 1930s until the early 1950s, external circumstances suddenly made current cost accounting seem highly relevant again. In succession came the devaluation of the guilder in 1936, price controls throughout and after World War II, and the revision of the tax system from 1939 through 1951, coinciding in the end with a period of strong inflation during the Korean War.

The Dutch government relinquished its adherence to the gold standard in September 1936. The result was a sharp increase in wholesale prices of about 20 percent during the closing months of 1936, contrasting strongly with the generally stable or falling price level since the mid-1920s. This gave rise to renewed attention to current cost accounting in the literature after a period of relative silence.

Limperg was one of the first to air his views. In early November 1936, he addressed a study meeting of the NIvA with a lecture on "The consequences of the devaluation of the guilder for the calculation of value and income".[40] An article based on the speech appeared in January 1937.[41] Both the article and the speech contained only

an outline of Limperg's theoretical foundations for current cost accounting but were to remain the only expositions of the theory by his own hand published in his lifetime. In the article, Limperg made a plea for acceptance of income calculation on the basis of current cost by the tax authorities in the special circumstances of the devaluation.

The tax authorities were not inclined to do so, and the Finance Minister issued a circular in January 1937, stating that

> I have been notified that, recently, attention has revived among auditors and others active in *bedrijfseconomie* for methods of income determination that, as it is usually expressed, nullify changes in the value of money.[42]

The minister warned tax inspectors that these "organic" balance sheet theories were in direct contradiction to the principles of the tax law as elaborated in jurisprudence and were, therefore, unacceptable. This settled the matter as far as the Finance Ministry was concerned although Limperg and others continued to discuss the subject for a while in the literature.[43]

In most of this literature, current cost accounting was discussed without reference to any sources or previous authors. This apparently reflects the practical, tax-oriented nature of this literature, but it also shows that, at the time, current cost accounting was certainly not proprietary to Limperg and was viewed by many as a generic concept. When Limperg's 1936 speech was referred to, it was done to show Limperg as an important supporter of current cost accounting, but not as its originator. References to Schmidt seem to be entirely absent.

A similar pattern occurred after the war. Current cost accounting remained the object of attention in the literature, but was, except by Limperg students, discussed in generic terms in response to practical issues as the financing of post-war reconstruction, price controls, rising prices, and the revision of the tax system.[44] It is in this light that one should appreciate such developments as Philips' adoption of the integral method of current cost accounting in 1951. Beliefs about "the Philips system designed by Limperg"[45] ought to be tempered by the realization that there is no indication of any personal involvement of Limperg in the Philips case. Current cost accounting had been used by Philips to alleviate the effect of price controls and may have been perceived as useful by Philips' management for financial reporting purposes as a substitute for secret reserve accounting.[46] The fact that Amsterdam Professor Th. Limperg had supplied additional justification for current cost accounting by basing it on an economic theory of the firm is unlikely to have played more than a secondary role.

Following the war, current cost accounting increasingly became a staple of examinations for practical accounting degrees. However, Limperg's name was hardly, if at all, mentioned in the textbooks in use for such programs and one must assume that most of the candidates learned of current cost accounting as a part of the common body of accounting knowledge.[47] Given the increasing number of accounting personnel acquainted with current cost accounting, the adoption of current cost accounting by other Dutch firms during the 1950s and 1960s and its espousal by the Dutch employers' associations in two influential brochures on financial reporting in 1955 and 1962[48] can be understood without reference to Limperg's direct personal influence.

Parallel to these developments in practice, but of interest to a much smaller circle, was the ongoing scrutiny of Limperg's theory by his academic colleagues to determine the originality and theoretical validity of his opinions.

Progress on this question was hampered by the absence of a clear exposition of Limperg's theory by his own hand. Limperg himself had conceded, in 1937, that he "owed" the public a full exposition of his theory after making his plea on the tax authorities,[49] but he never fulfilled this obligation. It is therefore hardly surprising to find Limperg student Van der Schroeff lamenting, in 1958, "the desperate confusion in many places about the nature, content, scope and implications of this theory [of current cost accounting]".[50]

Given the knowledge of Schmidt already available in the Netherlands, it is understandable that the lack of written materials by Limperg led some to assume that Limperg was a mere follower of Schmidt. Such beliefs may have been encouraged by the fact that Limperg's theory was, like Schmidt's, presented as an "organic" theory.[51] Belief in similarity was apparently sufficiently widespread to induce Limperg to distance himself carefully from Schmidt in his lectures,[52] and these occasionally strongly worded refutations were echoed by his students.[53]

Nevertheless, independent observers, such as Rotterdam professor N.J. Polak, were able to appreciate the difference between, on the one hand, similarity in practical conclusions and, on the other hand, differing theoretical underpinnings.[54] If one accepts the premise that, in the academic context of the 1930s, the views of both Schmidt and Limperg were judged on their merits as economic theories rather than as practical accounting recommendations, one can better understand Limperg's insistence that his theory differed fundamentally from Schmidt's. Although the vehemence of Limperg's language occasionally suggests an anxiety to protect his carefully developed work from the threat of a rival with an undisputable claim to precedence, he would be wronged if his stance that the two theories yielded the same results in practice but differed in underlying theory were taken as a pettifogging attempt to magnify minor differences. Choosing economic theory rather than accounting implications as the main battlefield was natural given the contemporary academic interests in the Netherlands.

Since Limperg was no longer active since the early 1950s the task of proving that current cost accounting could be supported with a coherent theory rather than by "mere" reference to its beneficial effects in practice fell to Limperg's students. They maintained the debate on this question in the Dutch literature from the middle 1950s until the late 1960s. It ended with the virtually unanimous acknowledgement that Limperg's theory of value and income contained a number of logical flaws.[55] However, since current cost accounting had acquired its own momentum in practice at least since the late 1930s and certainly since the early 1950s, this did not prevent the Dutch auditing community from continuing to propagate current cost accounting at home and abroad during the 1970s.[56] For this purpose, the theoretical debates of the 1950s and 1960s had only strengthened the cause of current cost accounting since they had resulted in a number of non-Limpergian but practical modifications, such as a gearing adjustment and the recognition of deferred tax liabilities regarding unrealized holding gains.

Conclusion

Schmidt's work was widely known in the Netherlands approximately a decade before Limperg's views began to be noticed outside his own Municipal University of Amsterdam in the mid-1930s. On the basis of Schmidt's work, the idea that current cost accounting might provide a practical solution to the problem of accounting for inflation was widely known but apparently hardly ever practised in the Netherlands at the time when Limperg's ideas became known outside his university. Today's virtually exclusive association of Dutch current cost accounting with Limperg can be explained by Limperg's stature in the auditing profession, his dominating role both within the Municipal University of Amsterdam and the NIvA, his ability to create a personal following, and his appealing notion of current cost accounting as part of a wider, comprehensive, and rigorous theoretical system of *bedrijfseconomie*. The spread of current cost accounting, though not necessarily in its Limpergian form, was helped by external circumstances in the period around World War II. Against this, Schmidt seems to have had few contacts in the Netherlands and few personal followers. Besides, when, around 1930, familiarity with his views seems to have reached its high-water mark, inflation in the Netherlands was firmly under control. Nevertheless, his ideas provided a fruitful soil that provided abundant yield when Limperg took up the cause for current cost accounting.

Limperg's significance should thus not be sought exclusively in the originality of his ideas. For practical purposes, his system of current cost accounting was virtually identical to that of Schmidt. His theoretical underpinnings certainly contained a number of original thoughts, brought together in an imposing attempt to construct a unified deductive theory that had ramifications beyond the use of current costs. But his theory of value and income has not emerged unscathed from decades of academic scrutiny, nor does it seem to have provided much more than moral support for the spread of current cost accounting in practice. Limperg's significance stems primarily from providing the motive power for what has aptly been described as the "*bedrijfseconomie* movement".[57] Limperg and his disciples gave the impetus to a modernization of education in the universities, the NIvA, and other practical accounting programs in which current cost accounting became, together with improvements in budgeting and standard costing, one of the hallmarks of the progressive Dutch enterprise. In this context, current cost accounting was a practical and useful tool that could easily be advocated without reference to specifically Limpergian concepts that anyway were more at home in economic theory than in accounting practice.

Limperg should receive full credit for inspiring the Dutch auditing profession with an almost missionary zeal for the propagation of current cost accounting outside the Netherlands. Even though the message actually spread was not always purely Limpergian (witness the references to the Netherlands in the Sandilands report, or the non-Limpergian elements in Philips' current cost systems), the fact that it was spread at all is inexplicable without reference to Limperg and his students. It is therefore understandable that Limperg's name is mentioned more frequently than Schmidt's in the English-language literature. Owing to Limperg, the Netherlands could be held up as an example of current cost accounting practice, whereas the same cannot be said for Schmidt and Germany.

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13. F. Schmidt, "De winst van de onderneming." *De Naamlooze Vennootschap* (February, March, 1923), 301–304,332–334.
14. See for instance the discussion on the relative merits of Schmidt and Schmalenbach in J.W. Verbeek, "Eenige bezwaren tegen de organische Balans- en Winstopvatting." *Maandblad voor het Boekhouden* (February 1926), 131–133; J.W. Verbeek, "Schijnwinsten en -verliezen en Balansopstelling." *Maandblad voor het Boekhouden* (March 1926), 159–161; C. Van der Eeden, "Statische-Dynamische- en Organische Balans en Winstrekening." *Maandblad voor het Boekhouden* (April 1926), 196–204; A. Menke, "De Organische Balans- en Winstopvatting." *Maandblad voor het Boekhouden* (May 1926), 240–242.
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The Influence of Cultural Factors on Accounting Practice

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Key words: Accounting practice; Accounting sub-culture; Culture

Abstract: *The purpose of this paper is to explore the relevance of environmental factors, and in particular the influence of culture on accounting practice. The move towards the harmonization of international accounting standards has focused attention on the difficulties that culture-based societal values can impose on the achievability of uniform accounting standards. As international comparisons of accounting practices have revealed differences, research has identified that environmental factors, especially cultural factors, exert considerable influence on a country's accounting practice development.*

Perera, Mathews, and Gray form a prominent group of researchers who claim that the cultural dimensions of Uncertainty Avoidance and Individualism (Hofstede) exert the strongest influence on accounting subcultural values. Based on statistical analysis, these researchers have identified certain country clusters and categorized, among others, Anglo-American and Continental European groups. France and Germany are presented as examples of the Continental European group with very similar accounting values and practices. Research from other disciplines, however, suggests that, while there are a number of economic policy similarities between those two countries, there is little evidence to support similarities on cultural factors.

Differences in accounting practices between France and Germany, which have been identified by Nair and Frank, and differences in accounting subculture values identified by Gray, allow for a tentative proposition as to the effect of cultural factors on the development of accounting practices within countries. Further support is drawn from Hofstede's studies of cultural determinism, again positioning France and Germany into different clusters.

Current research has been inconclusive in explaining the differences in accounting practices across countries in the cluster groupings identified by Hofstede and Gray. While we agree with the proposition that environmental factors exert considerable influence in the development of a country's accounting practices, these influences

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are more likely to be a moderating rather than an intervening factor. Our proposed framework should provide further input to the current debate and allow for a more structured research into the evaluation of divergences in accounting practices across countries.

Introduction

Recent moves towards the harmonization of international accounting standards have focused attention on the problems that culture-based societal values impose on the achievability of uniform accounting standards. Research efforts to date have shown a diversity of accounting applications and practice in different parts of the world and the development of national systems appears to be a function of environmental factors. However, some controversy exists as to the identification of which environmental factors exercise the most influence on the development of national accounting systems. The purpose of this paper is to explore the relevance of environmental factors and, in particular, the influence of cultural factors on accounting practices.

International accounting classifications have been dichotomized into deductive approaches (Mueller, 1967, 1968; Nobes, 1983, 1984) and inductive approaches (Frank, 1979; Nair and Frank, 1980) to explain differences among the accounting systems of Western nations that have market-oriented economic systems. In relation to the deductive approach, a distinction between macroeconomic and microeconomic systems was identified, with a further subclassification for microeconomic systems into business economics (theory) and business practice (pragmatic), and macro-economic systems into government economics and government tax/legal systems. A judgmental basis for analyzing a country's group membership was adopted to achieve the initial classification.

The inductive approach was based on a statistical analysis of reporting practices in a sample of countries and revealed that a clear distinction between measurement and disclosure practices in most countries exists. Hypotheses, which suggested associations between cultural/economic factors and disclosures, and associations between trading ties and measurement were not supported. While very broad country classifications were thus established, reasons for cultural divergences remain unclear and controversial.

A significant outcome of research endeavors in this area (Hofstede, 1987; Mueller, 1967; Nobes, 1983, 1984; Schreuder, 1987) has been the acknowledgement of the importance of environmental factors and, in particular, cultural factors in shaping a country's accounting system. As noted by Belkaoui and Picur (1991), it has also been argued that accounting is determined by culture (Violet, 1983) and that the lack of consensus in accounting practices between countries is because their purpose is not technical but rather cultural (Hofstede, 1985). These arguments have led to an acceptance that the culture of a country influences the choice of accounting techniques. The acceptance of a cultural determinism in accounting is based on the proposition that accounting is a socio-technical activity involving an interaction between both

human and non-human resources and because the two interact accounting cannot be culture free (Violet, 1983). Evidence for the proposition that cultural determinism exists in accounting practice has been provided by studies such as that conducted by Bloom and Naciri (1989) where they analyzed the standard setting process in the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland. Bloom and Naciri (1989) confirmed their hypothesis that approaches used to establish accounting standards are a function of the cultural factors inherent in each country.

The relationship between accounting and culture has been the subject of much debate over the last decade; however, as has been noted by Perera (1989), the impact of culture on accounting has yet to be established. More recently Gray (1988) proposed a theoretical framework suggesting associations between cultural factors and accounting practices. Furthermore, Perera (1989) and Perera and Mathews (1990) have focused on the relationship between societal (cultural) values and the accounting subculture.

The next (second) section of the paper will outline the existing theoretical framework in relation to the link between accounting and culture. The third section will critically review the existing framework. In the fourth section the association between the accounting subculture and accounting practices is discussed and the environmental factors perceived to influence this relationship are proposed.

2. The Existing Theoretical Framework

Gray (1988) has proposed a theoretical framework which suggests associations between cultural factors and accounting practices. Gray used Hofstede's culture-based societal value dimensions to develop a model that identifies the mechanism by which societal values (culture) become related to the accounting subculture which directly influences the development of accounting systems and practices on a national level. Gray (1988) bases his framework on Hofstede's culture-based societal value dimensions of Individualism versus Collectivism, Large versus Small Power Distance, Strong versus Weak Uncertainty Avoidance, and Masculinity versus Femininity. These dimensions are described by Hofstede (1984) in the following way:

Individualism versus Collectivism
Individualism is concerned with a preference for a loosely knit social framework in society whereas collectivism is concerned with a preference for a tightly knit social framework. The fundamental issue addressed by this dimension is the degree of interdependence a society maintains among individuals.

Large versus Small Power Distance
People in Large Power Distance societies accept a hierarchical order in which everybody has a place which needs no further justification. People in Small Power Distance societies strive for power equalization and demand justification for power inequalities. The fundamental issue addressed by this dimension is how society handles inequalities among people when they occur.

Strong versus Weak Uncertainty Avoidance
Strong Uncertainty Avoidance societies maintain rigid codes of belief and behavior and are intolerant towards deviant persons and ideas. Weak Uncertainty Avoidance societies maintain a more relaxed atmosphere in which practice counts more than principles and deviance is more easily tolerated. The fundamental issue addressed by this dimension is how society reacts on the fact that time only runs one way and that the future is unknown.

Masculinity versus Femininity
Masculinity stands for a preference in society for achievement, heroism, assertiveness, and material success. Femininity, on the other hand, stands for a preference for relationships, modesty, caring for the weak, and the quality of life. The fundamental issue addressed by this dimension is the way in which society allocates social roles to sexes.

Gray derived, from a review of accounting literature and practice, four distinguishable accounting values (accounting subculture) which are related to societal values. These accounting subculture values are described by Gray in the following way:

Professionalism versus Statutory Control – a preference for the exercise of individual professional judgement and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control.

Uniformity versus Flexibility – a preference for the enforcement of uniform accounting practices between companies and for the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies.

Conservatism versus Optimism – a preference for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, laissez-faire, risk-taking approach.

Secrecy versus Transparency – a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach.

Employing Hofstede's culture-based societal value dimensions, Gray (1988) postulated a number of relationships with the previously described accounting subculture dimensions. Gray's hypotheses suggest that of the four Hofstede dimensions, Uncertainty Avoidance and Individualism are the most influential dimensions in relation to the accounting subculture dimensions. Gray then extends this analysis by suggesting that the values of the accounting subculture find their expression in the accounting practices of authority and enforcement and measurement and disclosure. In particular Gray contends that the accounting subcultural values most relevant to authority and enforcement appear to be the dimensions of professionalism and uniformity, whereas the accounting subculture values most relevant to measurement and disclosure appear to be the dimensions of conservatism and secrecy. The hypothesized relationships between societal values, accounting subculture values, and accounting practice as proposed by Gray (1988) are depicted in Fig. 1.

The Framework Applied

Perera (1989) and Perera and Mathews (1990) focused on the relationship between societal (cultural) values and the accounting subculture. Like Gray (1988) they

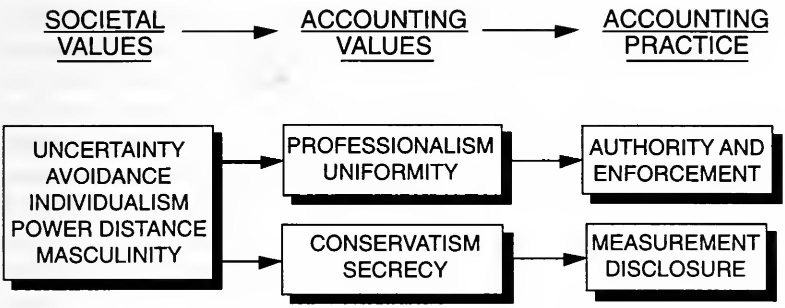

Fig. 1. The relationship between societal values, accounting values and accounting practice – Gray's theoretical framework.

proposed a number of hypotheses of the relationship between societal values and accounting values. The hypotheses also suggest, as did Gray's, that of the four culture-based societal value dimensions identified by Hofstede, the most influential in relation to their relationship with the accounting subculture dimensions appear to be Uncertainty Avoidance and Individualism. Table 1 depicts the similarities and differences in the hypotheses developed by Gray (1988), and Perera (1989) and Perera and Mathews (1990).

Perera's contribution builds on Gray's theoretical framework by suggesting that either one or a combination of accounting subculture dimensions have considerable influence on accounting practice. He attributes these associations between the accounting subculture variables and accounting practice to the value orientations of the preparers which have been formed by societal (cultural) values. In other words, accountants are a product of their environments and to some lesser degree disciples of their profession. While such conjecture supports the earlier proposition, it requires further analysis as to whether accountants perform a technical function or a societal function.

Table 1. Proposed hypotheses based on the existing theoretical framework

Accounting Subculture Dimensions	Professionalism		Uniformity		Conservatism		Secrecy	
Societal (cultural) dimensions	G	P,P&M	G	P,P&M	G	P,P&M	G	P,P&M
Individualism	High	High	Low	High	Low	Low	Low	Low
Uncertainty Avoidance	Low	Low	High	Low	High	High	High	High
Power Distance	Low		High				High	
Masculinity					Low		Low	
Predicted outcome	High	High	High	Low	High	High	High	High

Sources: G=Gray (1988); P = Perera (1989); P&M = Perera and Mathews (1990).

Perera (1989) further conjectures that societal values are affected by a broader set of environmental factors including economic variables. This leads Perera to postulate that previous research has allowed a fairly broad classification scheme in which Anglo-American and Continental European countries are characterized by similarities in their accounting practices and systems. While Perera attempts to identify similarities within those groups he also points to differences between those groups. To support his assertion he provides a sample of countries representative of each group. The Continental European Group is typified by France and Germany.

Perera provides a detailed description of the French system and proceeds to conclude that governmental requirements imposed on the profession through the General Accounting Plan have greatly influenced the development of accounting practices in France. He points to similar industrial developments in Germany, thereby suggesting that France and Germany have developed accounting systems which are based on enforceable legal prescriptions. He supports his arguments by linking both France and Germany to Hofstede's cultural dimension for these countries, proclaiming that on Hofstede's dimensional scales both countries have very similar rankings. His analysis in support of his hypotheses looks at a sample of Anglo-American countries which again display similar rankings on Hofstede's scale.

Perera extends his discussion to developing countries, again relying on Hofstede's cultural dimensions, and suggests that transferring accounting skills from Anglo-American countries to developing countries is unlikely to be successful as these countries have inadequate professional subcultures to develop and accept "standard" accounting skills. He further argues that, for these reasons, governments in the developing countries assume the role of formulating accounting principles and provide the legal authority to ensure the achievement of higher reliability of published financial information.

Perera and Mathews (1990) introduce the notion that the development of accounting systems has been influenced by UN and EEC pronouncements for greater disclosure of social and non-financial activities. These attempts to encourage countries to disclose non-financial activities in a more or less standardized format can be viewed as a concerted effort to reduce national influences in reporting practices. The authors use the concept of social accounting as supporting evidence for the notion that societal values determine a nation's accounting practices. Examples of notable disclosure requirements are cited as "employee" reporting, reporting on the achievements of industrial democracy practices and environmental disclosures.

They assert that Continental European countries score high on the Uncertainty Avoidance dimension, displaying negative attitudes towards Professionalism but exhibit positive attitudes on the Uniformity, Conservatism, and Secrecy dimensions of the accounting subculture. Perera and Mathews also use France and Germany as being similar and representative of Continental European practices relating to social accounting disclosures. The authors, in reference to the earlier developed theoretical framework, however, proclaim that France and Germany are low in Professionalism, therefore having a preference for Secrecy and Conservatism which results in minimal disclosure. Anglo-American countries, on the other hand, are given as examples of the situation where a higher degree of Professionalism results in a lesser preference for Secrecy and Conservatism. Essentially, the observations by the authors of

significant differences of the Continental European and Anglo-American groups can be explained in terms of their cultural environments.

The apparent contradiction of observed reporting practices in France and Germany, who are leading the world in social accounting reporting, is explained by a low individualist value set requiring the government to intervene in prescribing certain disclosure requirements, including those relating to social accounting. It should follow that countries with high individualistic values (Anglo-American) require minimal governmental intervention in providing social accounting disclosures. The evidence for the latter appears at best inconclusive.

3. Review of the Existing Framework

The idea of suggesting that France and Germany are representative of Continental European (namely EEC) countries is appealing and can partially be explained by the similarities identified by Mueller (1967), Nobes (1983), and Nair and Frank (1980). What remains unclear, however, are the differences which have also been identified by Nair and Frank (1980). Perera (1989) and Perera and Mathews (1990) have made the link through Hofstede's (1984) cultural dimensions, claiming that France and Germany are sufficiently close on Hofstede's scales to support their claim that these countries fall within the Continental European group.

A review of Hofstede's ranking of France and Germany on the cultural-based societal dimensions reveals discernible differences. Hofstede (1987) elaborates on his concept of culture by suggesting that within each national culture we can observe subcultures such as organizational cultures and occupational cultures. Occupational subcultures are characterized by a shared value system of those that exercise a distinct occupation, such as accounting. Hofstede further provides examples for France, Germany, and Britain to demonstrate the countries' differences on his cultural scales. The French prefer hierarchical order and rules, thereby explaining a larger Power Distance and a stronger Uncertainty Avoidance behavior. Germans tend to rely on rules and procedures, making personal command structures less dominant, therefore explaining the smaller Power Distance but also demonstrating strong Uncertainty Avoidance behavior. Hofstede further conjectures that countries which display strong Uncertainty Avoidance behaviors have more detailed and theoretically based accounting systems, whereas large Power Distance countries develop accounting systems that serve the aims of the power holder(s) through the accommodation of figures that support and justify the decisions of the power holder(s) in order to present the desired image.

Hofstede (1987) further states that accountants favor form over content, claiming that form is less influenced by value systems, but admits that people in operating roles prefer substance. He offers a tentative proposition that content is more influenced by cultural values. This could indicate that the accounting subculture prefers measurement and application over disclosure. Disclosure tends to question the value systems of the preparers in the absence of prescriptive rules. Schreuder (1987), in an attempt to gain further insights into the question as to what aspects of culture dominate accounting system development and accounting practices, compares national

accounting firms with "Big eight" accounting firms in the Netherlands, the latter being more representative of US culture within a different national environment. He finds support for Hofstede's Power Distance dimension rankings between the United States and the Netherlands; however, slight differences in the Uncertainty Avoidance and Individualism dimensions and a significant difference on the Masculinity scale are also detected by this research. Schreuder (1987) further notes that most of the European accounting systems have developed as a sub-branch of economic theory, and it is, therefore, not surprising to find similarities in accounting practices of measurement and application across many European countries.

Another interesting aspects of Hofstede's (1980) research is his admission that Uncertainty Avoidance is the only value dimension that correlates significantly with the other three values and can therefore be regarded as a "summary index." This aspect of Hofstede's research provides a new dimension to the earlier arguments presented by Perera (1989), Perera and Mathews (1990), and to some extent by Gray (1988) in suggesting that France and Germany are similar in accounting practices. France (86) and Germany (65) on the Uncertainty Avoidance scale are ranked 20 and 41, respectively, among 50 countries (see Table 2), which clearly indicates that the differences are statistically significant (Hofstede (1980), Schreuder, 1987,p. 30).

Such a large divergence for France and Germany on Hofstede's summary index can help to explain the differences observed by Nair and Frank (1980) with regard to the disclosure practices in these countries. Nair and Frank's research is particularly helpful as it examines changes over a period of seven years rather than a point in time which has been the practice of most other research in this area. The interesting aspect of this research is that measurement practices over the period observed remained unchanged and similar for both France and Germany, while disclosure practices remained consistently different over the same period. We have included Australia and New Zealand here as examples of countries in the Anglo-American group. Both of the latter countries seem to be very close on two of Hofstede's indices (the exception being Power Distance and Individualism) and also remain unchanged on the measurement and disclosure dimension identified by Nair and Frank (1980).

As noted previously, accountants tend to prefer form over substance, especially in Europe. This is reflected in measurement and application practices that are influenced by the market accounting information must serve. In France and Germany macroeconomic policy is determined by governments which also specify the type of information requirements needed to serve these aims. This leads to similar accounting

Table 2. Country indices for societal (cultural) dimensions

Country	Uncertainty Avoidance	Power Distance	Individualism	Masculinity
France	86	68	71	43
Germany	65	35	67	66
Australia	51	36	90	61
New Zealand	49	22	78	58
Mean	64	51	51	51

Source: Hofstede (1980).

development along the measurement and application dimensions as identified by Nobes (1983), who statistically fitted both countries within the macrobased economic group. Australia and New Zealand, on the other hand, being part of the Anglo-American group, have been identified by Nobes (1983) as micro-based economies with a pragmatic business practice orientation.

Gray's (1988) contribution to the debate of cultural influences on accounting practices focuses on the role that accounting subculture values of Professionalism, Uniformity, Conservatism, and Secrecy have on the accounting practices of measurement, authority, application, and disclosure. Gray (1988) further acknowledged the importance of Hofstede's Uncertainty Avoidance and Individualism dimensions as having a major impact on accounting subculture values. He felt that Power Distance and Masculinity, while having some influence in a general sense, seem to be of minimal importance on the development of the accounting subculture values.

Additionally, Gray (1988) dichotomizes these accounting subculture dimensions into two groups, as already shown in Fig. 1. He further contends that the subculture dimensions most relevant to authority and enforcement would seem to be Professionalism and Uniformity. Gray therefore combines these subculture dimensions and then hypothesizes culture area classification on a judgemental basis. From these classifications Gray concludes that Anglo and Nordic countries are sufficiently similar to be contrasted with Germany and more developed Latin culture areas (including France) which he contends are also similar. Gray completes this analysis by suggesting that the subculture dimensions most relevant to measurement and disclosure would seem to be Conservatism and Secrecy. Accordingly these subculture dimensions are combined and culture area classifications are again hypothesized on a judgemental basis. Once more Gray concludes that Anglo and Nordic countries can be contrasted with Germany and more developed Latin countries (including France).

Gray's (1988) earlier analysis revealed discernible differences in the subculture dimension of Uniformity, Conservatism, and Secrecy for France and Germany, whereas Australia and New Zealand exhibited remarkable similarities in all subculture dimensions (see Table 3).

As is evident from Table 3 there are discernible differences for France and Germany for the dimensions of Uniformity, Conservatism, and Secrecy. These differences are difficult to reconcile with Gray's (1985) more recent contribution to this debate as outlined earlier. What is clear from Table 3 is that Australia and New Zealand, which typify Anglo-American countries, are similar in each of the accounting subculture dimensions. France and Germany, on the other hand, which are taken to typify Continental European countries, exhibit differences for three of the four subculture dimensions. Based on these observations, it can be argued that France

Table 3. Country groupings for accounting subculture values

	Professionalism	Uniformity	Conservatism	Secrecy
France	Medium	Strong	Strong	Medium high
Germany	Medium	Medium strong	Medium strong	High
Australia	High	Weak	Weak	Low
New Zealand	High	Weak	Weak	Low

Source: Gray (1985).

Table 4. Country groupings for measurements and disclosures dimensions

	Measurement			Disclosure		
	1973	1975	1980	1973	1975	1980
France	III	III	III	III	I	I
Germany	III	III	III	II	III	III
Australia	I	I	I	I	II	II
New Zealand	I	I	I	I	II	II

Source: Nair and Frank (1980).

and Germany are not similar enough to represent a Continental European group. This is further supported by Nair and Frank's (1980) contribution, where they identified similarities in measurement practices for France and Germany and differences in disclosure practices for both countries. By contrast Australia and New Zealand display similarities in both measurement and disclosure practices. This finding is contrary to the dichotomy proposed by Gray (1988) (see Table 4).

4. The Modified Theoretical Framework

The current state of research suggests associations between societal factors, subcultural values, and accounting practices. This research, however, has failed to explain the differences in accounting practices within and across countries in either the Anglo-American, Continental European, or other cluster groupings identified by Hofstede and Gray. What emerges from the research attempts to date is that there appears to be a relationship between accounting subcultural values and accounting practice dimensions. Furthermore, it would also appear that culture can influence this relationship. This is evidenced by Perera and Mathews' (1990, p. 230) statement that:

> the extent of disclosure in financial reports would seem to differ between countries in line with differences in the value orientations of the preparers of those reports.

Based on this notion the question now arises as to what extent culture influences the relationship between the accounting subculture and accounting practices.

While we acknowledge that the debate on the significance of cultural values on the development of accounting practices is far from clear and remains controversial, prior research on the subject tends to fall into two areas. The first attempt, as presented by Mueller (1967) and Nobes (1983), of grouping countries on the basis of statistical analysis tends to classify countries on the basis of their economic environments and their dominant market mechanisms. This has led to the identification of accounting practices of measurement and application which appear to remain constant over time and in tune with their economic environments. The second stream of research (presented by Gray, 1988, Perera, 1989, Perera and Mathews, 1990) suggests that cultural factors are influential in determining the development of accounting subculture dimensions which in turn influence the development of accounting practice. As Nair and Frank (1980) have shown, while country groupings along the suggested classifications of Continental European and Anglo-American patterns can be identified,

divergences of measurement and disclosure practices are evident in countries within the same grouping, for example France and Germany.

A likely explanation based on the prior research efforts is that, while it is not disputed that environmental factors influence the development of accounting practice, the associations suggested by the hypothesized existing framework need to be re-examined. In the existing framework accounting subculture has been posited as an intervening variable between societal values and accounting practices. The inconsistencies highlighted by the various research efforts so far could find an explanation in the reformulation and testing of the association between the variables.

In interpreting the results to date, it appears that both economic factors and cultural factors influence accounting values and accounting practices in some way. A feasible association, which is supported by the research of Mueller (1967) and Nobes (1983), is that economic factors influence the accounting practices of measurement and application as well as accounting subculture values. Therefore, it is suggested that the economic factor variable has a moderating influence on the association between accounting subculture values and accounting practices of measurement and application.

The example of disclosure divergences between France and Germany as provided by Nair and Frank (1980) together with the claim by Perera (1989) and Perera and Mathews (1990) that these countries belong to the Continental European grouping and therefore have similar accounting practices supports a further modification to the existing framework. Cultural factors are therefore likely to influence the accounting practices of authority and disclosure and as such are influenced by the value orientation of the preparers of such reports. Therefore, it is suggested that the cultural factor variable has a moderating influence on the association between accounting subculture values and the accounting practices of authority and disclosure.

Fig. 2 depicts the modified framework. This framework enables the formulation of the following hypothesis stated in null form as follows:

H_0 Economic and cultural factors will have no significant influence on the relationship between accounting subculture and the accounting practices.

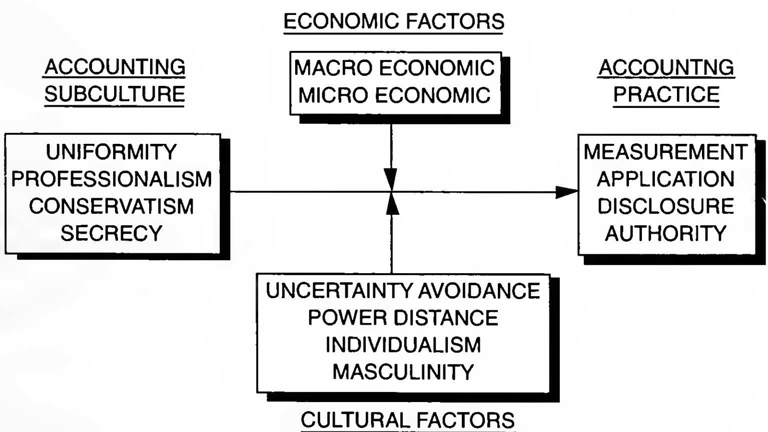

Fig. 2. Modified theoretical framework.

5. Summary and Conclusions

Prior research has shown that there are different patterns of accounting development. In addition, the current state of research suggests that there are associations between cultural factors, accounting subcultural dimensions, and accounting practices but has failed, however, to explain the differences in accounting practices within and across country groupings.

This paper has investigated the recent work on the effects of culture on accounting practice. In particular it has outlined the existing theoretical framework in relation to the link between culture and accounting and critically reviewed the existing framework. Further the association between accounting subculture dimensions and accounting practices and the factors perceived to influence this relationship have been reconsidered. Based upon the review and reconsideration of the relationship between the variables involved, a modified theoretical framework has been proposed and based on this modified framework testable hypotheses were formulated. By doing so we have offered a further contribution towards a general theory of cultural influence on accounting.

The proposals contained in this paper should contribute to the existing body of knowledge on cultural related accounting issues by identifying the influence culture has on a country's accounting-related professional and practice developments.

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The International Journal of Accounting

Book Review

Accounting and the Law *edited by Michael Bromwich and Anthony Hopwood. Research Studies in Accounting series, Prentice Hall, Hemel Hempstead, UK in association with the Institute of Chartered Accountants in England and Wales, February 1992, 253 pp. $75.00*

This book of readings arose from a conference on accounting and law in 1988 at the London School of Economics (LSE), where the joint editors are accounting professors. The purpose both of the conference and the book is exploratory. Its concern is with accounting regulation issues, largely though not exclusively from an English viewpoint. The strongest chapters, those by Arden Schipper, and Gwilliam, are very strong indeed, written with clarity, rigor, and insight. The weaker ones seldom rise above historical surveys of accounting regulation and company law, offering subjective assertions rather than corroborated analysis. The chapters on Australia's experience and Franc's regulatory framework combine narrative with analysis in a perspicacious and thought-provoking way. As an initial exploration of accounting's "regulatory space," the book can be recommended, and it aims no higher than that.

Chapter 1 is an introduction by the joint editors and is a cleverly written and ingenious weaving of coherence around the themes of the remaining 12 chapters, which would otherwise have seemed only marginally cross-linked.

In Chapter 2, Patient begins with a brief narration of the history of English company law as it affects accountants' duties. He quotes Mr. Justice Wright in the leading English secret reserves case, *R.* v. *Lord Kyslant*, 1932, popularly known as the Royal Mail Steam Packet case. "If the shareholders do not know and cannot know what the position is, how can they form any view about it at all?" This case epitomized and announced the break between the industrialized English-speaking world's views of accounts and accountability and those held in the rest of the world.

Chapter 3 continues the historical survey and its writers, Napier and Noke, both lecturers at the LSE, begin with general observations of the relationship between the work of accountants and lawyers. Accountants emerge as a by-product of the law, especially the bankruptcy law. As late as 1961, Viscount Simonds was able to say (in *Duple Motor Bodies* v. *Ostime*) that taxable profits should not be determined exclusively by the general practice of accountants. The establishment of Britain's Accounting Standards Board is seen as a step away from self-regulation and the writers perceive accountants today as wanting the protection of the law from the

terrors of negligence suits, despite the signal given by *Caparo* v. *Dickman*, [1991] that such suits face severe obstacles in the English courts.

Chapter 4 is a critical view of the legal control of accounting standards by Hadden and Boyd of Queen's University, Belfast. They say the attempt to develop legal definitions of such basic accounting concepts as "true and fair view" has often caused new problems without solving old ones, least of all for shareholders. Indeed, accountants have too often succumbed to management pressures, irrespective of legal buttresses against their so doing. The writers contrast the inability of a British stockholder to challenge in the courts the accuracy of published accounts with Canada's Business Corporations Act section 240 which empowers "a complainant or a creditor of the corporation" to do just that. The writers say: "... it is a standard practice for auditors to make a confidential report to management on matters of potential or actual concern arising from an audit as if their preliminary duty was to report management rather than to shareholders. All negotiations in respect of fees are also concealed from view" (p. 69). Most of the remarks in this chapter seem to result from the subjective impressionistic overview of the writers rather than the fruits of closely argued inferences from empirical or even secondary data.

In contrast, Chapter 5 is a legal viewpoint on accounting and the law by senior attorney Mary Arden, who co-authored the historic counsels' opinion on the true and fair view[1] which promulgated the ingenious notion that the law requires *a* true and fair view but does not sanction the dogma that such a thing exists as *the* true and fair view of a firm's financial affairs. She notes that courts are charges with ensuring that the directors took all reasonable steps to ensure their company complies with the Companies Acts by sections 245 of the 1985 Act, but the courts can only judge on the evidence presented by the parties to the action and may not, unlike their European counterparts, make any further proactive enquiry of their own. "The object of the proceedings is to compensate the plaintiff (if appropriate) and not to educate the profession. It is not for the court in those proceedings to enter upon some elaborate enquiry designed to lead to the exposition of accounting principles in general" (p. 81). However, she concludes by mentioning the possibility of Parliament empowering minority shareholders and the standards-setting authority to bring test cases in the courts for non-compliance with standards. She implies but does not declare that this would be an appropriate pair of steps forward.

In Chapter 6, Bromwich contrasts the possibilities of self-regulation with those of regulation by the legislature. In democracies, social choices are naturally channelled through the legislature. Private sector regulatory agencies may seem to look to lack authority. Any agency is vulnerable to capture by the regulated and some argue this makes government failure no less likely than market failure as regards rule making and rule enforcement in the public interest. The more votes or muscle the regulated have, the better able they are to manipulate the strength, structure, intrusiveness of the regulatory agency. The Accounting Principles Board (APB) in the United States was criticized for its capture by the senior partners of the Big Eight accounting multinationals. The Financial Accounting Standards Board (FASB) is seen as noticeably more independent of the accounting firms. Chapter 7 has McBarnet and Whelan, two English law academics, discussing the limits of the law in the regulatory process. Their main concern is whether more effective control of accounting standards

the force of the law. Laws, however, often have loopholes resulting from imperfect draftsmanship, while regulatory agencies are vulnerable not only to capture but also to laziness, so negotiation often encroaches into the strict regulation. Attention must also be paid to the activity of the regulated in resisting and manipulating laws and in taking refuge in the letter of badly or loosely drafted rules to evade their spirit. In other words, law is one thing; policing is another.

In Chapter 8, Bob Walker considers the Australian experience of the interaction between the accounting profession and the government in regulating financial reporting through the medium of the Accounting Standards Review Board (ARSB). The ASRB wished its standards to be drafted tightly to ensure both enforcedbility and consistency with companies legislation. The profession remained keen on bypassing the ASRB and having its own standards given force of law without agency intermediation. In July 1986, the profession succeeded in persuading the government to move the accounting regulations in Schedule 7 of the Companies Act to an approved accounting standard. Pressure for the abolition of the ARSB continued, as did the original reason for its creation – the low level of compliance with the professions standards. Walker says the profession's pressure can be viewed as an effort to ensure standards were drafted in terms that would allow room for "professional judgment". In the end, the profession succeeded in obtaining a merger of the ASRB with its own Accounting Standards Board. The Australian experience shows that interest group politics need not be confined to influencing just the content of standards but can also include attempts to shape the overall design of regulation. There is still no commitment by government or the profession to enforce standards. In Chapter 9, de Kerviller (a French practitioner) and Standish (an Anglo academic with an associate professorship in Paris) begin by contrasting the limited scope and varying stringency of British accounting requirements with the wide scope and uniform stringency of France's general accounting law. The Napoleonic *Code de Commerce* of 1807 sought to provide a structure for fair dealing in all commercial activity, and this approach has persisted to today and does not distinguish between limited companies and other actors, in terms of the need for accountability. In 1943, Vichy France produced the first national accounting plan, the "Plan comptable general". The Plan is an all-numeric chart of accounts arranged in a hierachial structure of decreasing classificatory generality. Such codification is apt to be seen by English-speaking pragmatists as a fruitless attempt at universal prescription. The French tend to view it as imparting certitude into social life which avoids the arbitrariness of despotic societies. Tax law has been important in French accounting, imposing obligatory asset valuation rules and rules for the recognition of costs and revenues. More recently, French law has sought to stimulate good financial management by, for example, stipulating the need for certain types of firm to maintain budgetary control systems. Individual firms must allow the Plan but groups of firms can follow international (i.e., Anglo-American) Generally Accepted Accounting Principles (GAAP) instead, albeit only at the group level.

In Chapter 10, Gilmore and Willmott return across the English Channel to offer what they purport to be a sociological history of UK financial reporting and law. Their approach is fairly captured in the following quotation on p. 161: "... accounting has played a central role in struggles to establish and maintain dominance of a form

of economic organization in which the accumulation of capital is secured through systematic pressure to increase the productivity of manual and managerial labour." They look forward to the Europeanization of UK accounting in the interests of turning towards a macroeconomic perspective and away from the macroeconomic marginalism.

Chapter 11 has Gwilliam of Cambridge University's Judge Institute of Management looking at some economic and moral issues in the legal context of auditing. The profession is characterized as blaming the courts for failing to protect auditors adequately against claims against them. He details the UK duty of care as begun with *Hedley Byrne* and confined by *Caparo* which laid to rest Mr. Justice Caroxo's fear in *Ultramares* v. *Touche*, [1930] of "liability in a determinate amount for an indeterminate time to an indeterminate class." He quotes estimates of large firms' insurance premium payments as being less than 5 percent of fee income, which is below the level paid by architects and surveyors and which fails to corroborate claims of litigation crisis in the accountancy profession. Auditors may have become too inclined to see audits as a platform from which to push more lucrative advisory services. He concludes thus (p. 201): "it is arguable that in the present legal climate the moral balance lies in favour of individual shareholders and other blameless third parties who may rely upon the work of an auditor but may be denied any form of redress when that reliance turns out to be unfounded." It is indeed.

Chapter 12 has Chicago's Schipper exploring issues in empirical accounting research regulation rule changes. She stresses the difficulty of separating current information effects from prior information effects on stock prices when assessing the abnormality of stock returns associated with new information. Both the content and timing of new information, including new regulatory information and its effects on corporate accounts, are anticipated to a varying degree by the stock market. FASB's pronouncements are intended to help the measurement process by to be neutral in the allocation process, so any stock market consequences at all of new standards may be thought undesirable. It is possible to separate two kinds of information jointness. First, regulatory changes are preceded by discussion papers, exposure drafts, and responsibilities to them which all feed into the process of stock market can anticipate the effect of the new rule on various firms and respond when the actual effects are disclosed as better or worse than anticipated.

The book ends well at Chapter 13 with Miller and Power both of the LSE, discussing accounting, law, and economic calculation. The boundary between accounting and law, they say, is fuzzy and negotiable, and accounting standards lie right on that boundary. At stake is whether accountants or lawyers should arbitrate large areas of socioeconomic reality. The law is "mobilized to secure public right to corporate knowledge, while accounting increasingly provides the new categories and practices that allow such rights to be operationalized" (p. 233). The rest of the chapter is concerned with the causes and consequences of the intersection of law and accounting within what they call, after Hancher and Moran, 2 "regulatory space." The neologism used as the starship to navigate regulatory space if "juridfication," after Teubner.[3] By this unpleasant name is denoted an unpleasant process of "creeping bureaucratic legalism that is held to have colonized social life." It is a process of regulation that is so inappropriate to the social structures regulated that either the indented results

of regulation fail to occur or else they only occur at the cost of destroying the social structures in question. Juridfication is clearly a term not of art but of abuse. Regulatory space becomes a battleground between the law and self-regulating systems, such as the accountancy profession, in which the rule of law is confronted with the limits to the effectiveness of law. The complexity of regulation in business has given rise in the UK to a growing number of quasi-voluntaristic regulation agencies in the space between the market and the state. Law and regulation create their own opposing dialectic action as exemplified by the tax avoidance advisory sectors of both the legal and accounting professions. Regulations can cost more than its financiers are willing to pay, and may, on closer inspection, be a particular type of juridification in which the law delegates regulation to autonomous domains but seeks to retain monopoly of interpretation of such key concepts as "fit and proper" person. The outcome of juridification is not settled in advance, but can be continually subject to negotiation between the parties contending to occupy regulatory space.

As an exercise in mapmaking the regulatory space around accountancy, this book is a good beginning. There are, however, some texts recently on the market that cover much of this space more cogently and coherently, such as Roslender's *Sociological Perspectives on Modern Accountancy* (London and New York: Routledge, 1992); Pocksons excellent but slightly dated US/UK comparisons in *Accountants Professional Negligence* (London: Macmillan, 1982); and the entire library of modern jurisprudence, notably perhaps Cotterrell's *The Politics of Jurisprudence* (London: Butterworths, 1989). Mapmaking the regulatory space surrounding accounting without drawing on a single work of jurisprudence is like sailing from Europe to America without a compass. It is the most serious and most myopic omission from *Accounting and Law* and makes the book rather less than the substantial contribution it could otherwise have been.

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INSTRUCTIONS FOR AUTHORS

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[2]Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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The International Journal of Accounting

The Association of Stock Returns with International Accounting Standards Earnings: Evidence from the Finnish Capital Market

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Key words: International Accounting Standards; Finnish accounting rules; Information content

Abstract: *Market-based accounting research on the information content of earnings figures based on the International Accounting Standards (IAS) is relatively scarce. This paper examines whether IAS-based earnings contain incremental information over and above earnings based on the Finnish accounting rules which have differed significantly from the IAS. The findings reveal significant information content in the IAS earnings after controlling for Finnish earnings. The results give evidence of the value of internationally standardized accounting rules for the investing public and give further impetus towards international accounting harmonization.*

Introduction

During the past few years, the need for international accounting research has grown in importance due to the increased globalization of political, social, and economic relationships. In a recent survey article, Gray (1989) identified a number of relevant research topics in this area. The research agenda proposed by Gray includes, for instance, the question of whether voluntary disclosures of significant factors attributable to foreign listings affect the cost of capital of multinational corporations. Furthermore, he recognizes the importance of International Accounting Standards (IAS) for developing countries. In an attempt to develop their stock markets, they need knowledge of the extent of necessary regulation and investor protection. To that end, Gray suggests inquiries into the relevance of IAS in a stock market context, as well as comparative studies of market responses to alternative accounting reports both within and between the developed and developing countries.

Accepted for publication: October 27, 1993

In the 1980s, a growing number of major Finnish firms started the practice of publishing parallel financial statements in addition to their official statements required by the Finnish accounting legislation and the rules of the Helsinki Stock Exchange. These supplementary financial statements are based on the recommendations of the International Accounting Standards Committee (IASC). These voluntary disclosures are prompted by the fact that Finnish financial accounting practices are not only tax-driven owing to extensive opportunities for earnings management, but also inconsistent with accounting practices in many other countries. As an indication of this, the IASC survey (1988) of financial accounting practices in 54 countries revealed that Finnish accounting rules had the lowest conformity with the IAS.

The most straightforward explanation for the firms' willingness to release dual financial statements relates to their foreign investors, customers, and suppliers. Finnish firms operating on international markets realized that, due to accounting differences, earnings figures based on Finnish accounting rules could not be interpreted without familiarity with Finnish accounting regulations and practices. When the managers of six Finnish firms which recently disclosed IAS earnings information were interviewed, the stated motives for voluntary disclosures were generally related to the information requirements of foreign stock exchanges and/or to "general reporting trends," while the information needs of domestic investors were not mentioned as the primary reason for IAS earnings disclosures.[1]

The focus of the present study is on analyzing whether market-adjusted security returns of listed firms show significant *incremental* market reaction to IAS-based earnings figures beyond the official earnings figures based on the Finnish accounting rules. The null hypothesis tested in this study is that, after controlling for the effect of Finnish earnings, there is no significant information content in the IAS earnings figures. Alternatively, because of the potential for earnings management allowed by the Finnish accounting rules and because of the dependence of taxable income on reported Finnish earnings, it can be hypothesized that IAS earnings are a more meaningful measure of the firm's performance and consequently contain significant incremental information over reported Finnish earnings.

The incremental information content in IAS *vis-à-vis* Finnish earnings is tested with the standard method where (market-adjusted) security returns are regressed on unexpected earnings. Because the regression model includes two independent variables (unexpected IAS and Finnish earnings in this case), the regression coefficient and related t-statistic of one earnings variable indicate whether it has significant explanatory power after controlling for the effect of the other earnings variable (see Gujarati, 1988, pp. 223–226). Thus, because the effect of the other earnings variable on the security returns is taken into account, the test measures incrementality in information content in this sense. This interpretation is consistent with many prior studies in the accounting literature.[2]

The authors are not aware of prior empirical studies directly addressing the information content of IAS earnings figures in a capital market context. However, interesting results from the point of view of this paper are offered by Meek (1983a, 1983b), who addressed how US investors react to earnings announcements of foreign firms listed on US stock exchanges. He examined the US stock market reaction to non-US Generally Accepted Accounting Principles (GAAP) earnings information

released by 26 multinational enterprises from five countries. The results showed that, even though the reported earnings figures were based on (national) accounting practices of the home countries of the multinationals, there was a significant market reaction to these announcements.

The empirical results reported in this paper suggest that the null hypothesis that there is no incremental information contained in IAS earnings figures should be rejected. The results give evidence of the value of internationally standardized accounting rules for the investing public and thus give strengthened thrust for further efforts in international accounting harmonization.

The remainder of this paper is organized as follows. First, the main differences between the Finnish and IAS accounting rules are briefly described. The data and methodology used in empirical analysis are then explained. The findings of the tests are reported thereafter, and the conclusions are summarized in the final section.

Differences Between the Finnish and IAS Accounting Rules

In the past two decades, there have been essential differences between the Finnish accounting rules and those of the IAS. This is illustrated by the fact that the firms' average (published) IAS earnings in the 1980s were approximately three times as large as the average official Finnish earnings (see Kasanen et al., 1992). The main sources of the net difference between IAS and Finnish earnings have been the following:[3]

(1) According to the IAS, inventory values include manufacturing overhead. The Finnish rules, on the other hand, have required that the inventory values be determined on the basis of direct costs. Thus, the inclusion of overhead in the inventory values has not been allowed.

(2) For most fixed asset classes, Finnish firms have applied a declining-balance method of depreciation, which is required by the tax rules. However, since these rules only set an upper limit (percentage) for annual depreciation, the actual amount of depreciation reported by the firms is essentially an ad hoc figure, because it may vary between zero and the maximum allowed by the tax rules. This practice contrasts sharply with the IAS which requires that depreciation should be determined on a systematic basis during the estimated economic life of the asset.

(3) According to the IAS, financial lease contracts must be capitalized in the lessee's balance sheet. This is not allowed according to the Finnish regulations.

(4) According to the IAS, 20–50 percent owned affiliates should be valued according to the equity method of accounting. In Finland, the cost method has been applied for such affiliates.

(5) In Finland, the unfunded pension obligations have not been treated as a balance sheet liability, and the changes in that liability have not affected income. The IAS requires their inclusion on an accrual basis in the financial statements.

(6) The Finnish rules have allowed firms to create various untaxed reserves. Since increases (decreases) of these reserves have been debited (credited) in the

income statement, they have had a direct effect on the reported Finnish earnings figures.[4] Furthermore, Finnish regulations have allowed firms to debit income taxes against shareholders' equity (retained earnings), which is not allowed by the IAS.

(7) According to the IAS, companies may use either "the percentage of completion" or "the completed contract method" in accounting for long-term construction projects. In Finland, only the latter method has been allowed. The IAS requires that even if "the completed contract method" is used, the foreseeable losses have to be reported during the project, which has not been permitted under the Finnish regulations.

Given these differences between the Finnish and IAS accounting rules, the complete adjustment formula for Finnish earnings, *if all relevant information were available*, can be summarized as follows:

Item no.		
1		Finnish net earnings
2	±	Net change in untaxed reserves
3	–	Provision for construction project losses
4	–	Taxes deducted from shareholders' equity
5	+	Tax-free income adjustments to shareholders' equity
6	±	Share of affiliates' net income (net loss)
7	±	Unrealized exchange gains (losses)
8	–	Dividends from affiliated companies
9	–	Interest on capitalized lease obligations
10	–	Systematic (e.g., straight-line) depreciation of the revaluations of fixed assets
11	–	Systematic (e.g., straight-line) amortization of capitalized leases
12	–	Increase in unfunded pension obligations
13	+	Lease expense
14	±	Adjustment for manufacturing overhead
15	±	Adjustment for the difference between unsystematic declining-balance and systematic (e.g., straight-line) depreciation of fixed assets
	=	IAS earnings (1)

Data and Methodology

A thorough survey of the annual reports published by Finnish firms listed on the Helsinki Stock Exchange indicated that, in the 1980s, 15 firms have voluntarily disclosed IAS-based earnings information and the total number of those disclosures amounts to 74. This number was considered too small for statistical analysis, especially when the measurement errors in reported IAS earnings are considered. These errors may arise because firms preparing IAS statements are not obliged to follow the IAS accurately and comprehensively, and because the standards themselves have allowed a lot of discretion by the firms. Therefore, although consistent in principle with the IAS, some variability in the applied rules in the preparation of the published IAS statements quite obviously has existed.

In order to guarantee that the adjustments for the differences between Finnish and IAS earnings were consistent across the sample firms and years, and in order to obtain a sufficient number of observations for statistical analysis, the data set used in this study was gathered as follows.

First, a sample of 37 listed manufacturing and commercial firms was selected on the basis of the availability of financial statement and stock returns data over the 19-year period 1971–1989.[5] The total market capitalization of the sample firms accounted for more than 90 percent of the total market capitalization of all manufacturing and commercial firms listed on the Helsinki Stock Exchange in the middle of the research period. IAS-based earnings were then measured for each firm and in each year by adjusting the reported Finnish earnings figure for six important differences between the IAS and Finnish accounting practices which account for the vast majority of the total difference.[6] The items of the general formula (1) which were taken into account were:

No. 2 (net change in untaxed reserves);
No. 5 (tax-free income adjustments to shareholders' equity);
No. 7 (unrealized exchange gains and losses);
No. 10 (depreciation of asset revaluations);
No. 14 (adjustment for manufacturing overhead); and
No. 15 (adjustment for depreciation).

While the first four of these items were readily available from financial statement information, adjustments for overhead (no. 14) and depreciation (no. 15) required estimation. The method used to estimate IAS earnings is described in detail in the Appendix.[7]

The association of stock returns with earnings measures was tested with the following regression model, which was estimated from data pooled across the sample firms and years:

$$r_{it} = a + b_1\mathrm{UFIN}_{it} + b_2\mathrm{UIAS}_{it} + e_{it} \tag{2}$$

where r_{it}= stock (residual) return for firm i in year t; UFIN_{it} = unexpected Finnish earnings of firm i in year t; UIAS_{it} = unexpected IAS earnings of firm i in year t; e_{it} = residual with usual assumptions; and a, b_1, b_2 are parameters to be estimated.

In accordance with several information content studies (e.g., Beaver et al., 1982), annual (fiscal year) stock returns were used. Because annual stock returns from fiscal years precede earnings disclosures, the measured stock returns may not impound all information in the earnings. This problem could not be avoided because (except for the last three years) the accurate dates of financial statement releases were not available for the sample firms.

In order to remove systematic factors from stock returns data, market-adjusted residual returns were measured in two ways.[8] First, assuming that all firms are in the same risk class as the market portfolio, the following *excess* returns were computed:

$$r_{it} = R_{it} - R_{mt} \tag{3}$$

where R_{it} = the total return of firm i's stock in year t (measured as annual logarithmic price changes); and R_{mt} = the return of a value-weighted market index.

Additionally, *risk-adjusted* returns were used. For each firm, these were obtained as residuals from the standard market model for security returns:

$$r_{it} = R_{it} - c_i - d_i R_{mt} \quad (4)$$

where c_i and d_i are firm-specific parameters of the market model.

To preserve consistency in the stock returns data throughout the sample period, the so-called restricted stock series (not available to foreign investors) of the sample firms were used. Separate quotation of restricted and unrestricted stock series started in the Helsinki Stock Exchange in January 1984, and a premium was introduced into the prices of unrestricted shares due to increased interest of foreign investors in Finnish stocks. Before 1983, foreign investors did not play any important role in the stock market and Finnish investors were indifferent as to whether they were holding restricted or unrestricted shares (Hietala, 1987, p. 4).

Both earnings variables (UFIN and UIAS) were measured before taxes. This was because the computation of IAS-based earnings after (hypothetical IAS earnings-based) taxes would have been too complicated owing to the tax-free income components and the carry-forward system applied for tax losses. Moreover, an examination of the published IAS financial statements revealed that firms used to report the same tax expense in Finnish income statements as in IAS income statements. This implies that the firms did not adjust the tax expense for the differences between the Finnish and IAS accounting rules.

Assuming a random walk-type process for both earnings variables, unexpected earnings were measured with changes in earnings between consecutive years.[9] In order to account for size differences, earnings changes were then scaled by the market value of equity capital at the end of the previous year. (Dividing unexpected earnings by market values guarantees that we avoid the problems caused by negative or near-zero denominators which would arise if earnings were used as the denominator.) Nevertheless, Table 1 containing the descriptive statistics of the data reveals that some relatively large/small values of the earnings variables (especially IAS earnings) persisted in the data. The same holds also for the stock return variables.

To reduce the effect of outlying observations and the potential measurement error in the variables (especially in IAS earnings), a portfolio approach was used by

Table 1. Descriptive statistics of the earnings and stock returns variables (N = 642)

	UFIN	UIAS	r_{excess}	$r_{\text{risk-adjusted}}$
Mean	.023	.056	.032	.003
Std. dev.	.143	.581	.262	.242
Min.	–.996	–3.138	–.900	–.830
1. quartile	–.010	–.010	–.122	–.144
Median	.013	.031	.013	–.025
3. quartile	.044	.190	.171	.131
Max.	1.596	3.722	1.509	1.269

UFIN = unexpected Finnish earnings.
UIAS = unexpected IAS earnings.
r_{excess} = excess returns (Eq. 3).
$r_{\text{risk adjusted}}$ = risk-adjusted returns (Eq. 4)

combining the original observations into portfolios of 3, 5, 7, 10, and 20 stocks according to ranked stock returns. Regression model (2) was then re-estimated using the means of these portfolios instead of the original observations.

Regression Results

Excess returns

The OLS estimation results of regression equation (2) for both stock return definitions are reported in Table 2.

The results in panel A of Table 2 from using excess returns show that, for all portfolio sizes, the estimated models are significant at least at the 5 percent level

Table 2. Results from regressing annual stock returns on unexpected Finnish and IAS earnings

A. Excess returns

Portfolio size	b_1 b_2	Prob(t)	R^2	Prob(F)	r^2
1 stock	.035	.334	.010	.037*	.198♣
(N = 642)	.041	.019*			
3 stocks	.099	.332	.035	.023*	.166♣
(N = 214)	.141	.010**			
5 stocks	.250	.235	.082	.005**	.166♣
(N = 128)	.241	.004**			
7 stocks	.327	.234	.098	.011*	.151♣
(N = 91)	.294	.008**			
10 stocks	.324	.320	.138	.011*	.221♣
(N = 64)	.415	.007**			
20 stocks	.897	.263	.222	.026*	.209
(N = 32)	.660	.018*			

B. Risk-adjusted returns

Portfolio size	b_1 b_2	Prob(t)	R^2	Prob(F)	r^2
1 stock	.041	.289	.006	.158	.199♣
(N = 642)	.026	.080			
3 stocks	.126	.293	.019	.133	.203♣
(N = 214)	.084	.068			
5 stocks	.162	.320	.047	.051	.262♣
(N=128)	.168	.034*			
7 stocks	.191	.349	.054	.087	.302♣
(N = 91)	.212	.054			
10 stocks	.382	.280	.077	.087	.185♣
(N = 64)	.279	.045*			
20 stocks	.594	.299	.203	.037*	.144
(N = 32)	.753	.015*			

b_1 = regression coefficient for (unexpected) Finnish earnings.
b_2 = regression coefficient for (unexpected) IAS earnings.
Prob (t) = marginal significance level for the regression coefficient (one-tail t-test).
R^2 = coefficient of determination.
Prob (F) = the marginal significance level for the regression model (F-test).
* Significant at the 5 percent level.
** Significant at the 1 percent level.
r^2 = squared correlation between the independent variables.
♣ = $r^2 > R^2$ (potential collinearity effect).

(see the Prob(F)-statistics). The R^2 values increase from 1 percent to 22 percent as the portfolio size increases from 1 to 20 stocks. More importantly, while the coefficients for Finnish earnings (b_1) remain insignificant irrespective of the portfolio size, the regression coefficients for IAS earnings (b_2) are significant in each portfolio. This suggests that the IAS earnings figures do have incremental information content over Finnish earnings which, in turn, do not have significant information content over IAS earnings.

As observed in prior related studies, the regression coefficients tend to increase when firms are grouped into portfolios on the basis of stock returns. For example, the coefficients of the IAS earnings increase from .041 to .660 as the portfolio size increases from 1 to 20 stocks. For the Finnish earnings, the increase is even more dramatic (from .035 to .897). The estimates of all regression coefficients are positive, as expected. Although the correlations between the independent variables are not very high (see the r^2 column on the far right of Table 2), they nevertheless exceed the R^2 values in all regressions except for the largest portfolio size. According to Klein's approximation (Christie et al., 1984, p. 212), some effect of collinearity can therefore be suspected in these regressions.[10]

Risk-Adjusted Returns

Compared with panel A, panel B of Table 2 shows consistently lower and less significant R^2 values , when the systematic market-wide factors were removed from stock returns with the standard market model. Nevertheless, while the coefficients for Finnish earnings are insignificant across all portfolio sizes, significant regression coefficients can be found for the IAS earnings variable in portfolios comprising 5, 10 and 20 stocks. In accordance with panel A, collinearity effects can be suspected in all other regressions except in the regression of the largest portfolio (20 stocks) in which the r^2-statistic remains small enough.

Diagnostic Tests of Regression Residuals

To assess the validity of the regression in Table 2, diagnostic analyses of the residuals of each regression were performed. Normality was tested using the χ^2 statistic suggested by Jarque and Bera (1980). In addition, homoscedasticity and the functional form were tested using the F-statistics suggested by White (1980). The results of these diagnostic tests are reported in Table 3.

The test results in the table show that the assumptions of the ordinary least squares (OLS) estimation, and thus the significance of the t-tests, are violated in several cases. For example, the regression of excess returns of one-stock portfolios on the earnings variables (see the upper panel) does not pass the normality and homoscedasticity tests for residuals, nor does it pass the test for the functional form of the model, which is indicated by the marginal significance levels of these tests (<0.1 percent, 1.5 percent and 2.7 percent, respectively).

Nevertheless, the table reveals two models which consistently pass all tests. These models are found for excess returns of 10-stock portfolios returns of 20-stock portfolios. However, referring back to Table 2, some effect of collinearity could be

Table 3. Diagnostic statistics for the regressions of stock returns on unexpected Finnish and IAS earnings
A. Excess returns

	Normality		Homoscedasticity		Functional form	
Portfolio size	$\chi^2(2)$	Prob(χ^2)	F_1	Prob(F_1)	F_2	Prob (F_2)
1 stock (N = 642)	357.76	<.001***	3.13 (4;634)	.015*	2.55 (5;632)	.027*
3 stocks (N = 214)	126.22	<.001***	2.40 (4;206)	.051	2.16 (5;204)	.060
5 stocks (N = 128)	7.24	.027*	2.71 (4;120)	.033*	3.02 (5;118)	.013*
7 stocks (N= 91)	2.78	.249	3.09 (4;83)	.020*	2.65 (5;81)	.028*
10 stocks (N = 64)	1.61	.447	1.23 (4;56)	.306	1.49 (5;54)	.208
(20 stocks) (N = 32)	1.88	.391	2.04 (4;24)	.099	5.39 (5;22)	.002**

B. Risk-adjusted returns

	Normality		Homoscedasticity		Functional form	
Portfolio size	$\chi^2(2)$	Prob(χ^2)	F_1	Prob(F_1)	F_2	Prob (F_2)
1 stock (N = 642)	245.04	<.001***	2.54 (4;634)	.039*	2.03 (5;632)	.073
3 stocks (N = 214)	84.90	<.001***	1.86 (4;206)	.119	1.47 (5;204)	.199
5 stocks (N = 128)	8.44	.015*	1.92 (4;120)	.112	1.52 (5;118)	.190
7 stocks (N = 91)	2.41	.299	3.24 (4;83)	.016*	3.54 (5;81)	.006**
10 stocks (N = 64)	4.49	.106	1.99 (4;56)	.108	3.16 (5;54)	.014*
20 stocks (N = 32)	.99	.609	.62 (4;24)	.653	.866 (5;22)	.654

χ^2 (2) = χ^2 statistic with two degrees of freedom testing normality of the model residuals.
Prob χ^2 = the marginal significance level for the χ^2 statistic.
F_1 = F-statistic for homoscedasticity of the residuals (degrees of freedom in parentheses).
Prob (F_1) = the marginal significance level of the F_1-statistic.
F_2 = F-statistic for functional form of the model (degrees of freedom in parentheses).
Prob (F_2) = the marginal significance level of the F_2- statistic.
*Significant at the 5 percent level.
**Significant at the 1 percent level.
***Signficant at the 0.1 percent level.

suspected in the former regression, while the r^2-statistic remained low enough in the latter regression. Since this model does fulfill *all* the underlying assumptions of standard linear regression and the OLS method, it can be concluded that the regression results reported in the bottom of the lower panel of the Table 2 model are the most reliable from a statistical point of view. As was noted above, the estimated model indicates significant incremental information content in IAS earnings after controlling for Finnish earnings.

Conclusions

Using a sample from the Helsinki Stock Exchange, this paper examines whether earnings figures based on the IAS accounting rules convey significant incremental information over earnings based on the Finnish accounting practices which have been largely inconsistent with the IAS. The findings give support to the notion that IAS-based earnings figures contain incremental information for the Finnish capital market. This was indicated by the significant earnings response coefficient obtained for the IAS earnings variable after controlling for the effect of Finnish earnings.

Some reservations with respect to these findings should be noted. First, the most appropriate expectation models for Finnish and IAS earnings may differ from what was assumed (i.e., the simple random walk). This may at least partly explain the inability of Finnish earnings to show significant information content over IAS earnings. Moreover, since the tests reported in this paper are joint tests of the information content of IAS earnings *and* the proxy used to measure them, the results are based on the assumption that the IAS earnings measure produced useful estimates of actual IAS earnings.[11]

With these caveats in mind, the empirical results of this paper give additional evidence of the value of standardized accounting rules for the investing public and give further impetus towards the harmonization of international accounting practices. Such harmonization may prove especially worthwhile in countries, such as Finland, where financial reporting practices have been notoriously tax-driven and where the accounting rules have included extensive earnings management opportunities. In such circumstances, accounting rules offered, for example, by the IAS can provide earnings information which the users of financial statements find more meaningful than earnings figures based on national accounting practices.

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Notes

1. The interviews were performed by two graduate students (Katri Loikas and Sari Siponen) of the Helsinki School of Economics.
2. Tests of the incremental information content of earnings figures generated by alternative accounting rules include, for example, the numerous US studies on the information content of current cost earnings beyond historical cost earnings; see Easman et al. (1979), Beaver et al. (1982), Bublitz at al. (1985), Beaver and Ryan (1985), Bernard and Ruland (1987), and Lobo and Song (1959), among others. For a thorough review of research on the association between stock returns and earnings, see Lev (1989), and for a discussion of the interpretation of "incremental information content", see Jennings (1990).
3. The differences between the Finnish accounting rules and the IAS described apply to the situation that prevailed at the end of the 1980s. The IASC has since then undertaken its comparability project (Exposure Draft 32) with the aim of eliminating alternative accounting treatments that were previously allowed. One should note, however, that the changes and refinements adopted in the IAS as a result of the comparability project (or any other amendments that were made in the early 1990s) do not have any material effect on the differences between the Finnish accounting practice and the IAS. Furthermore, while the Finnish accounting rules (the Accounting Act of 1973) were recently reformed to conform with EC Directives, these changes (albeit undoubtedly also reducing the gap between the Finnish and IAS practices) were not adopted until 1993 and are therefore outside the period examined in this paper.

4. The untaxed reserves allowed by Finnish regulations include inventory reserve, reserve for bad debts/ reserve for warranty repairs, investment reserve, and operational reserve. For example, in manufacturing firms, the most important of these has been the inventory reserve, the maximum amount of which in 1988 was 40 percent of the inventories valued at the lower of direct (FiFo) cost or market value.
5. Published financial statements from most of the sample firms were available from the entire period 1971–1989, while some observations were lost because financial statements were available from shorter periods (for four firms the financial statements were obtained from 1971–1986). Moreover, since some firms were not listed on the Helsinki Stock Exchange during the entire period, additional observations were lost for this reason.
6. Analogous data-generating procedures have previously been used in several studies which have examined the information content of cash flows (see, Kinnunen and Niskanen, 1993, and the studies cited therein). Since cash flows have not been reported by US firms until 1988 when the FASB Statement no. 95 requiring cash flow disclosures became effective, researches have derived cash flow data from financial statements by making appropriate adjustments to reported accrual-based earnings figures. Other examples of tests concerning the information content of non-reported earnings numbers can be found, for example in Easman et al. (1979) and Bernard and Ruland (1987), who estimate current cost earnings for a time period in which such earnings figures were not yet disclosed.
7. Kasanen et al. (1992) provide empirical evidence which shows that this IAS earnings measure predicted *actual* IAS earnings more accurately than regression models which were based on alternative approaches of IAS profit determination (the direct and indirect methods) or which employed different estimation techniques (ordinary or weighted least squares method). Furthermore, one should note that if investors consider IAS-based earnings information relevant, they are in the position to adjust Finnish earnings for the differences between the accounting rules in a similar manner.
8. Beaver et al. (1982) motivate the use of raw returns in their association study instead of excess or market model residual returns by referring to the comparability of results with previous studies and to findings that the results tend to be similar irrespective of whether the security returns are market-adjusted or not. However, in his review article, Lev (1989, p.160) provides evidence that most related studies in the 1980s have used market-adjusted returns. Recent evidence on the superiority of market-adjusted returns is provided by Chandra et al. (1990).
9. See Lorek et al. (1981) for a survey of research on earnings times series properties.
10. In brief, the problem of (multi)collinearity refers to a situation where the explanatory variables are highly intercorrelated, which contradicts the assumption of the classical linear regression model. As a consequence, the standard deviations of the regression coefficients become high which, in turn, leads to insignificant t-ratios. (See Gujarati, 1988, pp. 282–293, for a discussion of collinearity in regression models, and Bublitz et al., 1985, for a discussion of its importance in the context of information content studies.)
11. See, for example, Beaver and Ryan (1985, p.70) who discussed similar problems in the context of analysing US SFAS 33 earnings.
12. The use of the straight-line depreciation method is consistent with the actual practice which the Finnish firms have followed in their voluntarily disclosed IAS-based financial statements. Furthermore, the CIFAR survey (1989) of accounting practices in 24 countries worldwide shows that the straight-line depreciation is by far the most common basis for systematic depreciation of fixed assets.

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Appendix: Estimating the IAS Earnings from Finnish Financial Statement Information

The firms' IAS earnings were calculated for the years 1971–1989 so that they formed a consistent history during the data period. Some of the differences (see Eq. (1) in main text) between the Finnish and the IAS conventions could not be estimated, as data on those items were not available (e.g., lease contracts). However, the economically most significant adjustments were made including untaxed reserves and depreciation. The following transformation formula was used:

$$
\begin{aligned}
\mathrm{IASCALC}_t = {} & \mathrm{T115}_t \\
& - (\mathrm{T172}_t + \ldots + \mathrm{T177}_t) \\
& + (\mathrm{T152}_t + \mathrm{T153}_t + \mathrm{T158}_t) \\
& - \mathrm{STRDEPR}_t \\
& + (\mathrm{INDMAN}_t/\mathrm{DIRMAN}_t)*(\mathrm{T31}_t/(\mathrm{T30}_t + \mathrm{T31}_t + \mathrm{T32}_t))*(-\mathrm{T141}_t) \\
& + \mathrm{T179}_t \\
& + \mathrm{T191}_t \\
& - (\mathrm{T56}_t + \mathrm{T57}_t - \mathrm{T56}_{t-1} - \mathrm{T57}_{t-1}) \\
& + (\mathrm{T96}_t - \mathrm{T96}_{t-1}) \\
& - (\mathrm{T113}_t + \mathrm{T95}_t)/35
\end{aligned}
$$

where

$IASCALC_t$ = the estimated IAS earnings
$T115_t$ = Finnish earnings
$T172_t$ = change in operational reserve (– = increase)
$T173_t$ = change in investment reserve
$T174_t$ = change in inventory reserve
$T175_t$ = change in bad debt reserve
$T176_t$ = change in export reserve
$T177_t$ = change in other reserve
$T152_t$ = depreciation: buildings
$T153_t$ = depreciation: machinery
$T158_t$ = excess depreciation
$T30_t$ = materials and supplies
$T31_t$ = finished goods and work in progress
$T32_t$ = other inventories
$T141_t$ = change in inventory (+ = increase)
$T179_t$ = direct (income) taxes
$T191_t$ = tax-free income directly credited to equity
$T56_t$ = capitalized losses in accounts receivable
$T57_t$ = capitalized exchange rate losses on foreign debt
$T96_t$ = capitalized gains in accounts receivable
$T113_t$ = revaluation reserve (valuation items)
$T95_t$ = revaluation reserve (valuation items)
$STRDEPR_t$ = systematic (straight-line) depreciation charges based on a dynamic simulation model (see below)
$INDMAN_t$ = indirect manufacturing costs (= $T142_t + \ldots + T146_t + STRDEPR_t$)
$DIRMAN_t$ = direct manufacturing costs = $T136_t + \ldots + T139_t$

where

$T142_t$ = salaries (fixed)
$T143_t$ = social security costs (salaries)
$T144_t$ = rents
$T145_t$ = lease payments
$T146_t$ = other fixed costs
$T136_t$ = material costs
$T137_t$ = wages (variable)
$T138_t$ = social security costs (wages)
$T139_t$ = other variable costs

A Dynamic Model for Estimating the IAS Depreciation Charges

As noted in the body of the text, Finnish firms have used the declining-balance method of depreciation in an unsystematic manner. To compute the systematic depreciation required by the IAS, annual straight-line depreciation charges[12] ($STRDEPR_t$) were estimated on the basis of the investments $I_{t-(N-1)}, \ldots, I_t$ (N is the

economic lifetime of the asset). The annual investments I_t, can be tracked from the Finnish financial statements back down to the first data year. However, N–1 investments before the first data year (1970) had to be estimated based on the Finnish declining-balance asset value at the end of 1969. The straight-line depreciation was constructed from the following equation:

$$\text{STRDEPR}_t = d_t(I_{1936}) + \ldots + d_t(I_{1969}) + D_t(I_{1970}) + \ldots + D_t(I_t)$$

where

$d_t(I_i)$ = straight-line depreciation charge in year t, generated by the simulated investment in year i

$D_t(I_i)$ = straight-line depreciation charge in year t, generated by the actual investment in year i

The depreciations generated by the investments are given by the formula

I_i/N for the first N years, and 0 afterwards

where N = 35 years for buildings and N = 15 years for machines.

For the simulation of the I_i figures before 1970 the following assumptions were made:

(i) All companies grew at the steady rate of the average GNP growth, 11.3 percent, during the years 1936–1969.

(ii) All companies did maximum declining-balance tax depreciations, 9 percent for buildings and 30 percent for machines, during the years 1936–1969.

These assumptions lead to the following equations:

$\text{BAL}(N)$ = asset value at the end of year 1969

$\text{BAL}(t) = (1-\text{DEP})*(\text{BAL}(t-\text{I}) + \text{INV}(t))$ for t = N–1,...,1

$\text{INV}(t) = \text{INV}(t-\text{I})*(\text{i} + G)$ for t = N–1,...,1

where

N = economic life time

BAL(t) = value of the asset at t according to the declining-balance method

INV(t) = investments at t

DEP = depreciation rate (percent)

G = average annual growth rate (11.3 percent)

Solving this set of equations the simulated $I(t)$ figures are obtained, which generate the depreciation charges inherited from the period before the beginning of the data period. Adding all the depreciations from prior simulated or actual investments, we get the required STRDEPR_t figures.

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Economic Development and Securities Markets in Developing Countries: Implications for International Accounting

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Abstract: *The expansion of securities markets in developing countries can be a major source of capital for economic growth and development. In this study the relationship between the gross domestic products (GDPs) of developing countries and the securities market variables, including number of companies listed, market capitalization either in local currency or in US dollars, and trading value in either local currency or in US dollars, is investigated. The securities market variables are regressed against real GDP over a 10-year period from 1981 to 1990. The sample of 16 countries, namely Argentina, Brazil, Chile, Colombia, Greece, India, Jordan, Korea, Malaysia, Pakistan, Philippines, Portugal, Taiwan, Thailand, Turkey, and Zimbabwe, is selected from countries included in the International Financial Corporation Composite Index. The results indicate that there is a positive and significant correlation between the GDPs of developing countries and their stock market activities.*

Four major issues affecting the effectiveness of securities market are subsequently discussed. These include: (a) the impact of the transition from public to private enterprise ownership on the development and expansion of securities markets; (b) the importance of accounting and reporting criteria and standards in a newly developed securities market; (c) the need for public education to pre-empt the negative consequences of a newly established securities market on the economy and to build public confidence in a free market economy; and (d) the potential to link to international capital markets.

It is evident that the expansion of securities markets is recognized by developing countries as a major element in economic growth. We believe that international accounting education is a necessary prerequisite for their success.

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I. Introduction

Capital is the engine of growth. To develop, an economy requires easy access to capital at market prices. One of the persistent problems of developing countries has been the "savings gap" which has in turn led to "the low-level equilibrium trap." Lack of adequate capital at market rates causes capital starvation, preventing the accumulation of adequate capital for reinvestment in plant and equipment by entrepreneurs. This shortage, in turn, leads to inadequate savings – a gap which perpetuates slow economic growth. See Nurkse (1953) and Cairncross (1962). Gerald Meier stated succinctly:

> [T]he process of capital formation involves three essential steps: (1) an increase in the volume of real savings, so that resources can be released for investment purposes; (2) the channeling of savings through a finance and credit mechanism, so that investible funds can be collected from a wide range of different sources and claimed by investors; and (3) the act of investment itself by which resources are used for increasing the capital stock. (Meier, 1976, p. 267)

An increasing number of developing countries have concluded in the last two decades that the establishment of financial institutions, primarily stock markets, is critical for the generation of the requisite capital for economic growth. This recognition has been accompanied by the realization that, in the words of a recent World Bank study, "A move to a market-based economy must involve the financial sector at an early stage" (International Finance Corporation, 1991, p. 2). The remarkable growth of some Third World stock markets must be viewed in the larger context of wider changes in policy. The fundamental reason behind the necessity of a viable stock market is that it allows the price of capital to be determined by market forces and at a realistic level, i.e., on the basis of the return expectations of investors. This in turn would allow the capital thus generated to be used more efficiently. "Competitive financial markets transmit efficiency to the real sectors of the economy; controlled markets spread inefficiency" (International Finance Corporation, 1991, p. 2).

As stock markets develop, they afford the economy an opportunity to serve as a source of equity finance as well as a pricing mechanism for new stocks being issued. Private entrepreneurs, family owned firms, and dynamic new companies can tap into this source of capital and match their need for capital with those of investors who seek reasonable returns on their investments. The enhanced capital liquidity thus generated can ultimately propel the economy forward, resulting in economic growth.

This lesson was not lost on an increasing number of developing countries which began promoting their internal capital markets. Many indeed made remarkable strides in the 1980s. Total capitalization of the 20 largest markets increased seven-fold, and the number of listed companies doubled in that decade. Moreover, the World Bank reports that, by 1991, the value traded on these exchanges had increased to nearly 39 times the 1980 level, and capitalization as a percentage of gross national product (GNP) increased from 6 percent in 1980 to a remarkable 32 percent at the end of the decade. The 1200 or so companies in the 20 largest emerging markets raised over $28 billion in 1989 and $22 billion in 1990 from share offerings in their domestic markets, becoming thereby a major source of capital for their industries. It is remarkable that many of the top performing stock markets of the last few years have been those in the developing countries.

According to the International Finance Corporation (IFC) data, the top eight performing markets in the world in 1990 were in developing countries: Venezuela (up 572 percent), Greece (+90 percent), Zimbabwe (+84 percent), Chile (+31 percent), Columbia (+27 percent), Mexico (+25 percent), Nigeria (+24 percent), and India (+16 percent).

This remarkable growth has been in part due to the increasing globalization of financial markets, which allows global access to financial resources through the increasingly interconnected financial markets, accessed by financial intermediaries which have a global reach. Such a globalization process is indeed further reinforced by the addition of new, dynamic stock markets such as those mentioned above. One can also note the spread of country funds within developed countries as a sign that investors are becoming more interested in new, and potentially more rewarding, stock markets in which to invest.

One is compelled to ask why certain stock markets have done so well. What factors account for their success? What can other countries learn from the experience of the forerunners in the developing world?

Numerous studies have shown that the process of economic growth is often hampered by "the dominant and coercive role of the state apparatus" (Mehretu and Summers, 1990), while successful development has often entailed the establishment and nurturing of a competitive framework for the factor as well as the goods markets. The wave of privatization which swept the developing world in the last decade has in part been a response to this realization. So has the push toward privatization and renewed emphasis on the role of the private sector, (see Pfeffermann and Weigel, 1988). International development agencies, such as the World Bank and its affiliate the IFC, have encouraged this trend (see Sethness, 1988, and Wilson, 1989). Pfeffermann and Weigel note that many developing countries have been changing their policies to favor private firms, both domestic and foreign. These changes are part of the structural adjustment programs adopted by several countries with the assistance of the International Monetary Fund (IMF) and the World Bank, and often involve a revamping of the external trade sector, liberalization of controls in the domestic economy, a move to economic pricing of inputs, and a shift in the relative roles of the public and private sectors. Some of these factors, according to the authors, have resulted in a greater emphasis on inflows of foreign direct investment. Many countries have liberalized their policies toward foreign investment (see UNCTC, 1988, 1991). In 1987, direct investment in capital-importing developing countries increased for the first time since 1983. However, much more needs to be done to attract foreign direct investment especially to the heavily indebted middle-income countries.

As discussed by Gill and Tropper (1988), a country's economic development can benefit from a strong equity market in a number of ways. It reduces the vulnerability of companies to floating and high real interest rates. It provides finance for small businesses. It promotes democratic ownership of industry. Most importantly, it can increase economic efficiency by establishing fair prices for securities and minimizing the costs of buying and selling them. Accordingly, many developing countries are recognizing the advantages of an expanded domestic securities market. Gill and Tropper's analysis of return indexes over 12 years for 10 developing countries indicates

that, although these stock markets are extremely volatile, they yield high rates of return. These results are corroborated by the IFC data, as well as independent studies, such as Sethness (1988) and Wilson (1989).

It is indisputable that strong financial markets are fundamental to economic development. Many developing countries are trying to develop their financial markets and attract more inflows of equity capital from abroad. Well-established and strong capital markets, in addition to providing access to domestic capital, provide access to world financial markets. Consequently, many developing countries have reconsidered their approach to development. Most of them have decided to rely more on the private sector and market signals to direct the allocation of resources. To receive all the benefits of greater reliance on voluntary, market-based decision making, they need efficient financial systems. *The World Development 1989* identifies measures that will enable developing countries, through their private financial markets, to provide the services needed in the 1990s. It is believed that countries with stable economies and fairly well-developed and competitive financial markets would benefit from giving market forces more influence over interest rates. The need to restructure insolvent institutions provides countries with an opportunity to restructure their financial systems. Many developing countries have taken steps toward financial liberalization during the past decade, as will be noted below. It is widely believed that developing nations must achieve a much greater degree of skill in responding to internal and external shocks. (See de Lusignan (1990) and Mueller (1988)).

Whereas the importance of an efficient capital market is repeatedly noted in the literature, its link to economic development indicators are less well established. In light of the preceding review and discussions in the literature concerning the need for strengthening the emerging securities market in developing countries, it would be useful to develop a quantifiable model to measure the impact of increasing stock market activities on economic development and growth. The purpose of this paper is to develop a model to explore any association between economic development as measured by the changes in gross domestic product (GDP) and variables related to the securities markets. The paper investigates the relationship between key variables by developing a model and by testing it through the use of existing data generated by a World Bank affiliate, the IFC.

Table 1. Independent variables

Independent Variable	*Abbreviation*
Year, from 1981 through 1990	YEAR
Number of listed companies	NLC
Market capitalization in local currency	MCL
Market capitalization in US dollars	MCD
Population	POP
Trading value in local currency	TVC
Trading value in US dollars	TVD
Trading value turnover ratio	TVR
Logarithm of MCL	LOGMCL
Logarithm of population	LOGPOP
Logarithm of TVC	LOGTVC

II. Methodology

A stepwise regression model is computed for a sample of 20 developing countries included in the IFC Composite Index of Emerging Securities Markets. The GDPs of these countries are regressed on a list of independent variables measuring market activity.

The Model

A priori theoretical considerations lead us to believe that GDP is a function of several variables, including those related to market activity. We thus hypothesize the following:

$$\text{GDP} = a_0 + a_1x_1 + a_2x_2 + \dots + a_nx_n \tag{1}$$

In selecting the $x_1 \dots x_n$, we seek variables which are available, commonly used by the IFC, and justifiable with some causal rationale. We begin our investigation by scatter-plotting GDP as a function of each hypothesized independent variable. When the scatter plot suggests a relationship other than linear, we follow common practice and seek some form of equation that will fit the data better (Daniel and Wood, 1971, p. 19). In several cases, the plots suggest that GDP is more closely related to the logarithm of an independent variable than to the variable itself. The preliminary analysis yields the independent variables $x_1, \dots, x_n$ shown in Table 1.

Market capitalization is the sum of market value of all stocks registered in the market. The market value of each stock is

$$\text{P}_i \times N_i \tag{2}$$

where P_i is the last transaction price for the stock in period i and N_i is the number of shares issued and outstanding at the end of period i. Trading value is the sum of market value of all stocks *traded* in the market. The market value of each traded stock is computed as in eq. (2).

The causal rationale for most of the variables in Table 1 is self evident. YEAR is included to account for any otherwise unexplained time trends. POP is included as a proxy for country size. Log transforms are included when indicated by scatter plot analysis.

Rationale

The ordinary least squares (OLS) method is potentially the simplest and most powerful technique for determining $\hat{a}_0, \dots, \hat{a}_n$, the estimates of $a_0, \dots, a_n$ of Eq. (1), from historical data. Such estimates minimize the sum of the squared deviations of the observed dependent variable from the values predicted by the estimated equation. By the Gauss–Markov theorem, OLS estimates of the $a_0, \dots, a_n$ are *minimum variance*, i.e., estimates made via (imagined) successive sets of comparable data scatter around true parameter values with minimum squared deviation or variance. The estimates are also *unbiased*, i.e., the succession of estimates from comparable sets of data average out to the true values. (Daniel and Wood, 1971, pp. 6f.).

We recognize that there may be non-linear estimates with smaller variances than OLS estimates. However, the simplicity of the OLS method and its general acceptance in the literature are sufficient justification for not using more esoteric methods.

Random effects due to all other factors, disturbances, and measurement errors allow tests of statistical significance to be applied to the $\hat{a}_0$, ..., $\hat{a}_0$. (Sprent, 1969, p. 1.) Appeal to these tests is justified so long as there is a rationale for assuming that the disturbances are normally distributed (Draper and Smith, pp. 59f.). Gauss showed that the presence of a large number of small independent, additive causes of random disturbance would produce a cumulative effect that is normally distributed (Daniel and Wood, 1971, p. 8). Since this principle has been confirmed in many research data sets, we deem it reasonable to conclude that disturbance terms are normally distributed (Huang, 1970, pp. 71f.). A later examination of the residuals shows the bell-shaped indication of normal distribution.

Initial Considerations

The OLS approach requires that independent variables be, in fact, independent. Clearly the "independent" variables of Table 1 are related; indeed, some are simple transforms of the others. To check for possible multicollinearity – correlation of the independent variables – we compute a correlation matrix, shown in Table 2. Multicollinearity is "tolerable" so long as pairwise correlation of independent variables is less than the smaller of either 0.80 or the multiple correlation coefficient (Huang, 1970, p. 149). The problematic correlations are highlighted in Table 2. Our final functional relationship cannot contain both of the "independent" variables indicated by the highlighted coefficients, because they are not independent enough.

In addition, our model may not contain variables which depend on each other through derivation. For example, the model should not contain both a variable and its logarithm. It would also seem appropriate to avoid using variables which are closely related by nature. For example, we might use either MCL (market capitalization in local currency) or MCD (market capitalization in US dollars) but not both at the same time.

Table 2. Correlation Matrix

CORR	YEAR	NLC	MCL	MCD	TVC	TVD	TVR	POP	LOG MCL	LOG TVC	LOG POP	GDP
YEAR	1.0000											
NLC	0.4248	1.000										
MCL	0.2048	0.0770	1.0000									
MCD	0.3975	0.2491	0.5498	1.0000								
TVC	0.1856	0.0719	**0.9711**	0.6792	1.0000							
TVD	0.1618	0.0604	0.2000	**0.8439**	0.38890	1.0000						
TVR	0.363	0.1798	0.1668	0.5029	0.2376	0.2376	1.0000					
POP	0.4188	**0.9663**	0.0443	0.1993	0.0373	0.0466	0.1786	1.0000				
LOGMCL	**0.9494**	0.4153	0.3092	0.4621	0.2837	0.2128	0.4022	0.4138	1.0000			
LOGTVC	**0.9134**	0.4378	0.3495	0.5147	0.3312	0.2599	0.3959	0.4379	**0.9856**	1.0000		
LOGPOP	**0.9923**	0.5047	0.2081	0.4060	0.1880	0.1599	0.3640	0.5045	**0.9458**	0.9175	1.0000	
GDP	0.6688	0.7494	0.2851	0.5291	0.2867	0.2274	0.3330	0.7050	0.6322	0.6502	0.7316	1.0000

Table 3. SAS regression summary ($R^2 = 0.78182898$)

	DF	Sum of squares	Mean Square	F	prob>F
Regression	3	1209536780613.9	4033178926871.30	155.29	0.0001
Error	130	337523785062.11	2596336808.1701		
Total	133	1547060565676.0			
Variable	Parameter estimate	Standard error	Type II sum of squares	F	Prob>F
NLC	43.59737846	4.18482024	281791680637.31	108.53	0.0001
MCD	0.90233072	0.16095327	81600517960.243	31.43	0.0001
LOGPOP	3945.14937767	523.64918441	147369317122.14	56.76	0.0001

Regression Analysis

Regression analysis is accomplished via the SAS "STEPWISE" procedure (SAS Institute, 1985, pp. 763–747). Data for 20 countries are used. Appendix A contains the data for all countries.

Initial examination shows that OPEC countries seem definitely to be in a class by themselves. That is, the binary-valued variable indicating an OPEC country was highly significant. While interesting, this fact complicates examination of GDP as a function of market activity. We therefore omit Indonesia, Mexico, Nigeria, and Venezuela from further analysis and use Argentina, Brazil, Chile, Colombia, Greece, India, Jordan, Korea, Malaysia, Pakistan, Philippines, Portugal, Taiwan, Thailand, Turkey, and Zimbabwe.

Initial regression runs are compromised by multicollinearity. Correlation among some "independent" variables entered by the stepping algorithm is not "tolerable." Successive runs are made with correlated independent variables suppressed. We also find that a proportion is a better fit to the data than a trend line; i.e., no intercept term a_0 appears in the final model.

The final result, based on all non-OPEC countries, is as follows:

$$\text{GDP} = 43.60 \times \text{NLC} + 0.09 \times \text{MCD} + 3945.15 \times \text{LOGPOP} \tag{3}$$

The SAS regression analysis summary for this model appears in Table 3. The resulting model explains some 78 percent of the variation of the dependent variable GDP. The independent variables, as shown in Table 2, are not correlated. An examination of the residuals of the model shows a normal distribution with zero mean. The coefficients $\hat{a}_1, \ldots, \hat{a}_4$ are all significant.

III. The Findings

This study explores the implications of growing activities of the emerging securities markets in a range of developing countries. The results indicate that there is a positive and significant correlation between GDPs of developing countries and stock market activities. Table 1 summarizes the results of the stepwise regression analysis

performed on a total of 133 useable observations for the 16 countries. The analysis revealed that there is a statistically significant correlation (at the 0.15 confidence level) between GDP and the securities market indicators in the model. Consequently, it can be stated with certainty that the stock market activities in developing countries can help us understand the rate of economic development.

Table 2 is a correlation matrix between all variables including securities market indicators as well as GDP. All the signs of the coefficients are positive, suggesting that, for the 16 countries included in the analysis, there is a significant relationship between the size of GDP and securities market indicators. It is also found that there is a statistically significant positive correlation among securities market indicators. This correlation suggests that through increasing the number of listed companies (NLC), which may be achieved by privatization, all other variables such as market capitalization and trading values will also increase.

IV. Discussion

Having identified the positive relationship between the securities market activities and economic development, it is worthwhile to elaborate on many benefits which may result from the establishment of a securities market in developing countries. These benefits include strengthening market forces and competition, improving enterprise performance, strengthening domestic financial markets, and finally building a wider business ownership base.

By establishing a securities market, a government can rely on private resources to carry some of the burdens which otherwise would be borne by the state treasury. If essential needs of a society can be handled by a private company through securities markets, it will be cheaper for the government to provide tax advantages or other incentives to promote the market than to undertake the project by consuming public funds. Shifting a burden to the private sector may also assist the government in reducing the budget deficit and in building infrastructure and facilitating programs designed to expand private investment opportunities.

Greater opportunities for private investment will encourage and promote the securities market and provide more monetary resources in private hands. It will also create a favorable environment for training and development of skilled management with the knowledge and ability to build a more competitive business climate. A well-developed securities market will automatically expand a wider business ownership base and remove many of the problems associated with a concentration of enterprise ownership. In short, a wider ownership has economic, social, political, and even psychological benefits to society.

In order to prepare for a successful securities market, four major factors should be addressed. These issues include the following:

1. The impact of the transition from public to private enterprise ownership and control of the development and expansion of the securities market.
2. The importance of accounting and reporting issues in a newly developed securities market.

3. The need for a public education to prevent the negative consequences of a newly established securities market on the economy and to foster public confidence in a free market economy.
4. The potential for linking to the international capital market.

The Impact of the Transition from Public to Private Enterprises

Privatization has become more popular during the last decade. Privatization programs have been started in a number of OECD countries, in Africa, Asia, Latin America, and recently in Central and Eastern Europe. Privatization includes reassignment of property rights and ownership from the state to the private sector. The major objective of privatization is to strengthen market forces and competition within the economy, improve enterprise performance, and enhance domestic financial markets by building a wider business ownership base. In countries where the usual method of raising capital is through debt financing with banks and government agencies, privatization through share offerings is an important strategy for developing financial markets to attract investment capital and encourage efficient utilization of national resources. A major part of such programs is to expand private investment through special arrangements with employees for share ownership to assist in the expansion of the ownership program as well as stabilize the market forces. Employees could easily be educated in regard to the potential risks and rewards of the securities market.

There are several advantages and disadvantages associated with "going public." The term "going public" denotes the process in which the securities of a privately owned company are sold to the public, as a result of which the company becomes publicly owned. The securities sold may be those belonging to the owners of the company, in which event the owners receive the proceeds; this is a "secondary distribution." On the other hand, the company itself may sell additional shares to raise more capital, in which case the company will receive the proceeds. Sometimes the offering may be a combination, that is, partly for the account of shareholders and partly for the account of the company. If the present shareholder is the government itself the proceeds from the securities will provide additional funds for the government and will help to reduce its budget deficit. In general the following are some of the advantages of going public:

1. *Diversity for the owner.* The present owner can sell part of his/her holdings to diversify. Often the owner may sell only a portion of his/her holdings and retain enough to keep control of the business.
2. *Access to capital.* A publicly held company has unlimited access to sources of funds for expansion. The company can raise money by issuing more stock to both existing owners and banks and institutional lenders. If the offering is attractive, the company will have access to a vast and potentially global capital market. Furthermore, once the company and its securities are known to the investing public, successive issues of the company (assuming no adverse changes in its affairs) become easier to market.

3. *Attracting key personnel.* When a company is publicly owned, it is possible to establish restricted stock option plans which can serve as an inducement to attract and keep key personnel.
4. *Market expansion.* Every shareholder is a potential customer. The company often benefits when its shares are owned by the public. The more widespread the distribution of shares, the greater the potential for public support.
5. *Facilitate mergers and acquisitions.* When the company's securities have an established market, it is easier to negotiate mergers or acquisitions with other companies without using the company's cash resources.

The Importance of Accounting and Reporting Issues

To establish an effective securities market, developing countries must have proper accounting and reporting procedures and standards. In some countries, such as South Korea, accounting standards and procedures, which are greatly influenced by legislation, are prescribed by the Securities Supervisory Board, with the approval of the Ministry of Finance. In the Philippines, accounting practices are not heavily influenced by legislation, as they are in many other Pacific Rim countries. However, the stock exchanges and the Securities and Exchange Commission (SEC) do publish and influence the Generally Accepted Accounting Principles. In Taiwan, the regulation of the SEC is included with other laws which relate to accounting, and is an influential force in establishing accounting standards.

Accountants and accounting information and financial reporting generally play an important role in enhancing and supporting both the privatization process as well as the development and growth of the securities market. It is always necessary to file a registration and prospectus in order to be listed in any securities market. The registration and prospectus contain financial statements and supporting schedules. In most cases the financial data must be certified by professional accountants or government inspectors.

Accounting information and financial reporting usually deal with past events and require that adequate accounting standards be applied to summarize and valuate the financial position and the results of operation of the registered company. On the other hand a requirement for an efficient and effective capital and securities market is information useful for predicting future cash flows from operations. Therefore, accounting information regarding past transactions will only be relevant if it is useful in anticipating future outcomes. To have a dependable securities market, accounting and reporting should include a series of disclosures regarding the current value of the public companies as well as limitations of the information presented in financial reports.

The Need for Public Education

The development of a securities market depends on developing financial skills; it is a service industry for which necessary skills and sophistication should be developed gradually, over time. A major difficulty in the development and growth of securities markets in developing countries is a lack of public knowledge and understanding of

the risk and opportunities associated with a securities market. In some situations, such as Iran before the revolution, and Kuwait and Taiwan in the 1980s, huge amounts of money were chasing a limited number of stocks. Either as a result of speculative motives or purely because of a total lack of other alternative investment opportunities, the high demand for stocks resulted in overvaluation or eventual collapse of some stock markets. Overvaluation and hyperactivity create the illusion among the trading public that they are getting richer. But this wealth is illusory and unrealized. As a result, when the reality is discovered it will produce a public distrust of the market. Among the possibilities that are available to prevent this damage to the market are:

1. Intervention by the government regulators to stabilize the market. This is not an easy task, especially if the public does not have an appreciation of the risk and opportunities offered by the market.
2. Encouraging a systematic offering of new stocks by the government and corporations. In most circumstances the government and corporate holdings rarely change hands, and only a limited number of shares are available for trading.
3. Introduction and linkage to the foreign securities and exchange markets. This often requires significant changes in national laws and regulations which may not be easily approved by the ruling authorities.

The most practical and advisable solution is a systematic program for public education. The market analysis and potential should be integrated in the mass media as well as college and university programs. People should learn the difference between speculation and investment in a socially useful and economically profitable stock market. For example, the simple concepts of earnings per share and price/earning ratios should be communicated to the potential investors.

The Potential Linkage to the International Capital Market

It has become a cliché to say that we live in a global village, in a world where national economies are interdependent. This general interdependence has made the whole world a single market for many commodities and services. However, international linkage among financial markets is not as developed as international trade in goods and services. Although there are major developments in the internationalization of financial markets, there is still a great potential for growth of this market through further expansion of a worldwide securities market.

Multinational corporations have already made major inroads in international financial markets through their trade and investment operations. Many foreign investors and central banks allocate a vast amount of funds to purchase US treasury offerings. However, such activities are currently dominated by Triad countries, i.e., the United States, Western Europe, and Japan. The development of securities markets in countries other than the Triad will afford those countries an opportunity to participate more fully in a truly global financial market. The development of a securities market in a country gives foreign investors an opportunity to provide funds with which to finance development projects while the local firms and governments provide domestic residents

with needed funds to expand and develop other projects. In addition, world financial markets allow international investors to diversify their investment portfolios.

Joining an international capital market, however, imposes several constraints on the national economy. Domestic interest rates must follow those prevailing in the international market thus undermining financial sovereignty, making it difficult for the government to control the money supply. The exchange rates will also have to be based on flexible and market driven rates. In short, it is clear that the domestic securities market should be well developed before joining the international market.

V. Conclusion and Implications for International Capital Market Development

This paper studies the economic impact of the securities market in developing countries. We found a significant and positive correlation between securities market indicators and GDPs of developing countries included in our study. By investigating the relationship between economic development and the securities market in these countries, one can understand the need and justification for the establishment of a securities market in countries which do not have an active market at the present time. A major contribution of this paper is to establish the importance of the securities market for developing and post-Communist countries.

In the early 1990s, more than 45 countries had active securities markets. In some developing countries the market index doubled in a single fiscal year. Obviously not all of this meteoric rise represents an increase in real economic value of the securities market. It includes an element of inflation and speculation. Most of the unusual gyrations in the burgeoning stock markets are due to lack of understanding of their dynamics by the participants and the inadequacy of control instruments. These include appropriate government rules and oversight, proper disclosure of accounting and financial information about listed companies, and adequate public education regarding the dynamics of the market. We believe that public education is absolutely essential for the long-term prosperity and survival of the newly established securities markets. A contributing factor to this education is the development and promotion of accounting standards and practices. Therefore, it is essential for the developing countries to undertake a convincing and credible educational program aimed at promoting the reliability of accounting information and disclosures.

As countries privatize economic activity, remove distortions, and introduce incentives to attract private and foreign investments, they become increasingly convinced that properly managed yet unencumbered and efficient capital markets constitute a part of the economic development strategy. Recent evidence from Latin America, reported in the October 1991 issue of *Latin Finance,* provides vivid testimony that countries of the Americas are embracing the concept of free capital markets, and are, in turn, benefiting from their actions. Mexico, Argentina, Chile and others are currently benefiting from a reversal of capital flight as well as increased inflow of foreign direct investment.

Given sufficient time, such comprehensive programs will pave the way for a successful, stable and sizeable securities market which could eventually take on a

regional and global importance as successful capital markets are accepted and integrated into the global financial markets.

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Appendix: Equity Market Profiles of Markets Included in IFC Composite Index (Currency Amounts in Millions)

Argentina: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	263	1.5	2 056	0.2	454	17.7	122 644
1982	248	4.7	974	0.6	231	19.3	56 706
1983	238	32	1 386	4	389	22.2	64 767
1984	236	209	1 171	19	277	15.5	78 121
1985	227	1 631	2 037	380	631	41.3	65 789
1986	218	2 000	1 591	292	309	16.1	78 801
1987	206	5 318	1 519	539	251	14.7	80 730
1988	186	33 006	2 025	5 548	593	28.9	83 808
1989	174	5 746 133	4 225	708 573	1916	24.5	69 178
1990	179	18 529 329	3 268	4 081 478	852	33.6	

Brazil: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	1 086	1.6	12 574	0.6	6 185	52.5	263 706
1982	1 100	2.6	10 261	1.1	5 938	50.9	271 733
1983	1 098	14.9	15 100	2.8	4 884	32.3	206 423
1984	1 123	92	28 994	18	9 960	34.3	211 348
1985	1 156	449	42 768	133	21 485	49.3	228 709
1986	1 250	612	42 096	395	28 912	74.4	271 635
1987	1 240	1 203	16 900	377	9 608	41.5	303 344
1988	1 219	23 504	32 149	4 675	17 979	37.8	353 651
1989	1 221	501 354	44 368	46 934	16 762	17.9	375 146
1990	1 193	2 633 390	16 354	369 245	5 598	23.6	–

Chile: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	242	274 943	7 050	14 607	375	4.5	32 644
1982	212	322.751	4 395	8 278	163	2.8	24 340
1983	214	227 448	2 599	5 112	65	1.9	19 757
1984	208	270 048	2 106	5 079	51	2	19 192
1985	228	369 930	2 012	9 153	57	2.9	15 996
1986	231	831 550	4 062	5 7 562	298	9.6	16 817
1987	209	1 241 500	5 341	110 353	503	10.6	18 948
1988	205	1 709 099	6 849	149 659	610	10.1	22 048
1989	213	2 819 642	9 587	224 673	866	9.9	24 000
1990	215	4 596 608	13 645	233 884	783	6.3	33 686

continued...

Appendix continued

Colombia: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	–	82 636	1 399	18 064	332	22	36 388
1982	193	92 940	1 322	5 966	93	6.8	38 969
1983	196	76 055	857	5 101	65	6	38 731
1984	180	86 817	762	4 762	47	5.8	38 253
1985	102	71 689	416	4 204	30	5.3	34 894
1986	99	180 012	822	9 521	49	7.6	34 943
1987	96	329 112	1 255	19 524	80	7.7	36 373
1988	86	384 744	1 145	18 793	63	5.3	39 246
1989	82	480 531	1 136	28 092	74	6.5	39 518
1990	80	740 673	1 416	34 389	71	5.6	–

Greece: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	111	130 565	2 266	3 025	55	2.2	36 999
1982	113	135 672	1 923	2 499	37	1.9	38 541
1983	113	95 155	964	1 480	17	1.3	34 950
1984	114	98 359	766	1 314	12	1.4	33 755
1985	114	113 060	765	2 384	17	2.3	33 423
1986	114	156 611	1 129	4 520	32	3.3	39 274
1987	116	565 582	4 464	59 676	441	16.5	45 987
1988	119	632 950	4 285	44 413	313	7.4	52 937
1989	119	996 623	6 376	8 9006	549	10.9	54 557
1990	145	242 8929	15 228	621 370	3 924	36.3	–

India: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	2 114	60 500	6 649	57 950	6 693	108.3	184 120
1982	3 358	68 000	7 058	47 560	5 030	74	187 822
1983	3 118	75 320	7 178	24 010	2 377	33.5	205 242
1984	3 882	79 310	6 370	44 500	3 916	57.6	202 015
1985	4 344	174 750	14 364	61 340	4 959	48.3	211 609
1986	4 744	178 300	13 588	135 960	10 781	77	232 623
1987	5 560	219 870	17 057	87 400	6 743	43.9	256 560
1988	5 841	354 820	23 623	170 035	12 241	59.2	281 605
1989	5 968	460 000	27 316	280 320	17 362	68.8	268 746
1990	6 200	700 000	38 567	382 091	21 918	65.9	–

Indonesia: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	8	47 874	74	7 652	12	17.5	92 008
1982	14	99 507	144	12 625	19	17.1	94 457
1983	19	100 743	101	10 108	11	10.1	81 053
1984	24	90 980	85	2 139	2	2.2	84 857
1985	24	131 900	117	3 206	3	2.9	85 257
1986	24	132 900	81	1 816	1	1.4	73 345
1987	24	112 080	68	5 185	3	4.2	75 674
1988	24	434 178	253	6 944	44	2.5	84 285
1989	57	4 049 993	2 254	957 031	541	38.7	93 969
1990	125	15 264 600	8 081	7 318 089	3 992	75.8	

continued...

Appendix continued

Jordan: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	72	833	2 457	75	227	11.3	3 523
1982	86	1 000	2 845	112	318	12.3	3 748
1983	95	1 008	2 173	120	329	11.9	3 916
1984	103	886	2 188	53	138	5.6	3 896
1985	104	903	2 454	64	163	7.2	4 067
1986	103	977	2 839	65	185	6.9	5 786
1987	101	907	2 643	142	420	15.1	6 121
1988	106	1 061	2 233	127	337	12.9	5 817
1989	106	1 378	2 162	365	652	29.9	4 566
1990	105	1 238	2 001	266	407	20	–

Korea: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	343	2 959 000	4 224	2 534 000	3 721	92.4	69 048
1982	334	3 301 000	4 408	1 974 000	2 700	63.1	72 376
1983	328	3 490 000	4 387	1 753 000	2 260	51.6	78 638
1984	336	5 149 000	6 223	3 118 000	3 869	72.2	85 445
1985	342	6 570 403	7 381	3 620 600	4 162	61.8	86 792
1986	355	11 994 200	13 924	9 597 965	10 889	103.4	105 991
1987	389	26 163 050	32 905	20 497 444	24 919	107.4	131 816
1988	502	64 543 684	94 238	58 081 409	79 180	128.1	174 446
1989	626	95 476 773	140 946	81 199 753	121 264	101.5	212 462
1990	669	79 019 675	110 594	53 454 058	75 949	61.3	—

Malaysia: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	187	34 307	15 300	8 059	3 498	26.1	25 005
1982	194	32 237	13 903	3 251	1 392	9.8	26 796
1983	204	53 309	22 798	7 887	3 398	18.4	29 969
1984	217	47 048	19 401	5 216	2 226	10.4	33 944
1985	222	39 380	16 229	5 799	2 335	13.4	31 231
1986	223	39 214	15 065	3 046	1 180	7.8	27 787
1987	232	46 016	18 531	9 647	3 829	22.6	31 636
1988	238	63 193	23 318	6 858	2 623	12.5	34 729
1989	251	107 513	39 842	18 638	6 888	21.8	37 493
1990	282	131 166	48 611	29 391	10 871	24.6	–

Mexico: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	229	264 917	10 100	102 487	4 181	36.1	249 959
1982	206	165 826	1 719	44 071	781	20.5	173 715
1983	163	432 435	3 004	133 505	1 112	44.6	148 873
1984	160	423 009	2 197	362 491	2 160	84.8	175 606
1985	157	1 418 168	3 815	606 106	2 360	65.8	184 538
1986	155	5 496 862	5 952	2 349 694	3 841	68	129 858
1987	190	18 415 504	8 371	21 436 504	15 554	179.3	139 993
1988	203	31 977 806	13 784	13 026 825	5 732	51.7	165 347
1989	203	60 514 035	22 550	15 421 436	6 232	33.3	185 711
1990	199	96 472 097	32 725	32 574 647	12 212	44	–

continued...

Appendix continued

Nigeria: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	93	1 917	3 010	6	10	0.3	95 229
1982	93	977	1 458	8	12	0.5	93 130
1983	93	2 223	2 970	13	18	0.8	89 769
1984	93	2 579	3 191	13	16	0.5	93 028
1985	96	2742	2 743	13	15	0.5	90 228
1986	99	3 688	1 112	22	16	0.7	59 110
1987	100	4 032	974	27	7	0.7	28 755
1988	102	5 089	960	24	5	0.5	30 503
1989	111	7 489	1 005	28	4	0.4	21 995
1990	131	11 935	1 372	88	11	0.9	–

Pakistan: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	311	8 554	864	–	–	–	28 077
1982	326	11 267	877	–	–	–	27 165
1983	327	15 201	1 126	–	–	–	27 610
1984	347	18 834	1 226	2 523	180	14.8	28 773
1985	362	21 900	1 370	3 757	236	18.4	30 008
1986	361	29 491	1 710	2 583	155	10	30 907
1987	379	34 300	1 960	2 813	162	8.8	32 903
1988	404	45 508	2 460	3 181	177	8	37 298
1989	440	52 207	2 457	3 910	193	8	38 105
1990	487	64 827	2 985	4 979	231	8.5	–

Philippines: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	190	14 255	1 738	1 291	163	6.3	38 648
1982	200	18 172	1 981	1 215	142	7.5	39 883
1983	208	19 445	1 389	5 365	483	28.5	34 564
1984	149	16 486	834	2 082	125	11.6	32 368
1985	138	12 741	669	2 067	111	14.1	32 927
1986	130	41 214	2 008	11 471	563	42.5	30 763
1987	138	61 108	2 948	31 352	1 524	61.3	34 440
1988	141	88 592	4 280	18 251	875	24.4	39 588
1989	144	260 470	11 965	50 730	2 410	29.1	45 794
1990	153	161 219	5 927	28 569	1 216	13.5	–

Portugal: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	23	10 179	156	129	2	1.3	23 928
1982	26	8 220	92	65	1	0.7	23 365
1983	25	11 029	84	135	1	1.4	20 663
1984	23	12 307	73	476	3	4.1	19 291
1985	24	30 254	192	851	5	4	20 700
1986	63	223 519	9 041	60	7.1	1 202	29 522
1987	143	1 150 304	8 857	213 904	1 518	31.1	36 821
1988	171	1 052 277	7 172	163 384	1 136	14.8	40 786
1989	182	1 588 380	10 618	300 394	1 912	22.8	44 240
1990	181	1 251 248	9 201	240 449	1 687	16.9	–

continued...

Appendix continued

Taiwan: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	107	201 000	5 312	209 200	5 677	99.6	48 140
1982	113	203 000	5 086	133 875	3 422	66.3	48 564
1983	119	306 000	7 599	363 845	9 081	143	52 415
1984	123	390 300	9 889	324 475	8 194	93.2	59 174
1985	127	415 700	10 432	195 200	4 899	48.4	62 080
1986	130	548 436	15 367	675 655	18 931	140.2	80 000
1987	141	1 386 065	48 634	2 668 603	84 112	275.9	101 586
1988	163	3 383 280	120 017	7 872 393	275 624	330.1	122 435
1989	181	6 174 164	237 012	25 407 964	965 840	531.7	147 674
1990	199	2 861 911	100 710	19 031 282	715 005	429.8	–

Thailand: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	80	23 058	1 003	2 358	108	9.8	34 839
1982	81	28 970	1 260	5 481	238	21.1	35 652
1983	88	34 222	1 488	8 757	381	27.7	39 570
1984	96	46 710	1 720	10 258	434	25.3	41 177
1985	100	49 457	1 856	15 438	568	32.1	37 351
1986	98	75 200	2 878	29 807	1 133	47.8	41 651
1987	125	138 170	5 485	119 179	4 633	111.7	48 717
1988	141	221 958	8 811	141 473	5 598	78.6	59 628
1989	175	656 842	25 648	344 778	13 452	78.5	69 869
1990	214	604 566	23 896	584 154	22 894	92.6	–

Turkey: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	–	–	–	–	.	.	57 666
1982	–	–	–	–	.	.	53 031
1983	–	–	–	–	.	.	51 149
1984	–	–	–	–	.	.	49 668
1985	–	–	–	–	.	.	52 783
1986	40	708 801	935	8 703	13	.	57 396
1987	50	3 181 715	3 221	98 701	115	5.1	67 744
1988	50	2 048 000	1 135	142 867	101	5.5	71 204
1989	50	15 553 000	6 783	1 668 609	798	19	78 444
1990	110	55 249 665	19 065	15 028 176	5 841	42.2	–

Venezuela: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	–	10 476	2 441	202	47	1.8	78 027
1982	98	10 368	2 415	350	82	3.4	79 265
1983	–	12 005	2 792	255	59	2.3	81 229
1984	116	–	–	341	27	–	32 371
1985	108	16 238	1 128	428	31	–	33 769
1986	108	34 275	1 510	1 047	52	4.1	24 264
1987	110	67 077	2 278	4 087	148	8.1	25 294
1988	60	67 546	1 816	7 360	221	10.9	26 279
1989	60	64 052	1 472	3 575	93	5.4	39 392
1990	66	415 893	8 361	103 236	2 232	43	–

continued...

Appendix continued

Zimbabwe: Equity Market Profile, 1981–1990

YEAR	NLC	MCL	MCD	TVC	TVD	TVR	GDP
1981	62	–	–	94	136	–	6 423
1982	62	326	355	57	75	–	6 813
1983	60	293	265	38	38	12.3	6 144
1984	56	265	176	8	6	2.9	5 108
1985	55	591	360	14	9	3.3	4 715
1986	53	688	410	20	12	3.1	4 746
1987	53	1 194	718	38	23	4	5 375
1988	53	1 504	774	71	39	5.3	5 714
1989	54	2 396	1 067	75	36	3.9	5 736
1990	57	6 373	2 395	126	51	2.9	–

Definition of abbreviated terms:
NLC = Number of listed companies
MCL = Market capitilazation in local currency
MCD = Market capitilazation in US Dollars
TVC = Trading value in local currency
TVD = Trading value in US dollars
TVR = Trading value turnover Ratio
GDP = Gross domestic product in US Dollars
Source: International Finance Corporation, *Emerging Stock Markets Factbook*. Washington: IFC, 1991.

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Accounting Harmonization Between Australia and New Zealand: Towards a Regulatory Union

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Key words: Australia; Harmonization; International; New Zealand; Regional; Regulation

Abstract: *This paper examines the accounting implications of the Closer Economic Relations (CER) Agreement between New Zealand and Australia. Choi's (1981) cluster analysis explains why regional efforts at the harmonization of accounting standards would be more fruitful in comparison with those aimed at a global harmonization. It has been argued that harmonization of accounting standards between the two countries is an essential step to achieve the objectives of the CER Agreement and that this is not only possible, but perhaps inevitable due to the growing business relationships between the two countries and the similarities in their economic, legal, and accounting infrastructure. However, so far no attempt has been made to address the operational details of the manner in which such harmonization could be achieved.*

The purpose of this study is to consider the current arrangements and likely future directions in regard to accounting standard setting in New Zealand and Australia with a view to suggesting a mechanism through which the harmonization of accounting standards between the two countries may be achieved. The study leads to the conclusion that a merger of the two accounting standard-setting structures would be the most appropriate mechanism for this purpose and offers some ideas for operationalizing such a merger.

1. Introduction

The Australian Society of Certified Practising Accountants (ASCPA) and the Institute of Chartered Accountants of Australia (ICAA) issued a joint statement following the ASCPA Melbourne Convention in 1989 noting that accounting organizations on both sides of the Tasman have urged greater cooperation in the formulation of common

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accounting and business standards (*New Zealand Herald*, March 8, 1989). This cooperation, it was felt in that convention, was essential for the maximum utilization of the opportunities that existed under the Closer Economic Relations (CER) Agreement between New Zealand and Australia. The major objective of the CER Agreement is to develop closer economic relations between the two countries through free trade. To this end both countries agreed to remove progressively barriers to trade and to develop conditions of fair competition (*New Zealand Australia Closer Economic Relations Trade Aggreement 1983*, Article 1). In view of the growing business relationships through CER and the similarities between the two countries in the economic, legal, and accounting infrastructure, accounting harmonization between the two countries would not only be possible, but perhaps inevitable. For example, Tower and Perera (1989) argued that the establishment of a sound basis of financial communication is crucial to provide the financial infrastructure necessary to achieve the ultimate objectives of CER. More recent changes to legislation in the two countries have highlighted this fact and, as a result, both the Accounting Standards Review Board (ASRB) of New Zealand and its counterpart the Australian Accounting Standards Board (AASB) now have an obligation under legislation to work towards the harmonization of accounting standards between the two countries (New Zealand Society of Accountants (NZSA), 1993, para. 9.4).

The purpose of this paper is to suggest a mechanism by which a common accounting standard-setting structure could be established between New Zealand and Australia. The present study can be described as largely exploratory. The paper is organized into five sections. International harmonization at global and regional levels is explored in section 2 with regional clustering advanced as the preferred model. Section 3 investigates the scope for accounting harmonization between Australia and New Zealand. Section 4 explains the suggested mechanism for merging the two accounting standard-setting structures, with some concluding remarks in section 5.

2. Global Versus Regional Harmonization

For over two decades, harmonization has been the "buzzword" in international accounting particularly in discussions focusing on the accounting practices of different countries. With the rapid growth of global economic activities during the 1970s, the existence of differences in accounting practices between countries was regarded as an impediment to international trade and business expansion (Choi and Mueller, 1984). As a result, increased attention was drawn to the need to eliminate or minimise such differences and it was argued that formal action should be taken to achieve that objective. Accordingly, a number of accounting standard-setting bodies which claim international jurisdiction for their pronouncements have emerged in the last two decades.

The establishment of the International Accounting Standards Committee (IASC) in 1973 was a private sector response to the clamor for an international standard-setting process. The stated purpose of this organization was twofold: first, to promulgate international financial accounting standards; and second, to promote

best efforts at compliance with these standards (IASC, 1978). So far over 30 accounting standards and several exposure drafts and discussion papers concerning important financial accounting issues have been released by this organization (Radebaugh and Gray, 1993, pp. 166–173). The IASC works closely with the International Federation of Accountants (IFAC), which was established in 1977 with the broad objective of developing and enhancing a coordinated worldwide accounting profession with harmonized standards. These two organizations entered into a mutual commitment agreement in January 1983. In addition to the IASC and IFAC, other organizations, such as the United Nations (UN) and the Organization for Economic Cooperation and Development (OECD), are also involved in harmonizing accounting standards between countries. Based upon the number of influential organizations involved at the international level, clearly the international accounting standards movement is very much alive.

A variety of benefits have been attributed to the international harmonization of accounting standards, such as: improving international comparability in financial statements, enhancing international capital flows, raising of the general level of accounting practice, the reduction of the costs of preparing financial reports for multinational corporations, and an improvement in the resource allocation decisions of international portfolio managers (Turner, 1983; Choi and Bavishi, 1982). The very definition of harmonization has, however, taken on several meanings and viewpoints. Some see harmonization as one uniform global set of accounting rules to which all countries would conform, a complete standardization viewpoint, while others perceive a lesser benchmark for harmonization. Harmonization, in the latter view, means the process of increasing the compatibility of accounting practices by setting boundaries to variations (Nobes and Parker, 1985). The intuitive appeal of the concept seems often expressed in a much more expansive mode. For example, Radebaugh and Gray (1993) distinguish between harmonization and standardization, and state that "harmonization implies a more flexible approach compared to standardization, which suggests a more strict approach resulting ultimately in a state of uniformity" (p.142). In this broader view, harmonization is seen almost as the solution to universal comparability of financial data.

The efforts to harmonize accounting standards at the global level are fraught with problems. For example, each country's unique environment precludes the imposition of an international body of standards. With regard to the developing countries, the IASC's program encounters some serious difficulties, particularly in view of the identifiable differences in business environments and business ownership, users of accounting information, the cultural background or the value orientation of people and their attitude towards disclosure, and problems relating to the transfer of accounting technology. There is also a tendency for these countries to view IASs as a form of technocratic colonialism, as the political structure of the IASC tends to ensure a dominant influence by the Anglo-American model. As a result, the relevance of IASs to developing countries and their competence to satisfy the financial information needs of those countries have been questioned (e.g., Perera 1985, 1989). The basic tenet of the argument here is that a country evolves a unique culture, and accounting is part of that unique social fabric; therefore, accounting standards which are based on different social circumstances and environmental conditions from those found in

a particular country are likely to be dysfunctional in that country. In view of the problems involved, Choi (1981) spoke of the dilemma of global accounting standards: "Of course, the thesis of environmentally stimulated and justified differences in accounting runs directly counter to efforts at worldwide harmonization of accounting. Hence, the dilemma" (p. 29).

The harmonization of accounting standards between countries can be achieved in different ways. As espoused by the 1989 joint statement of the Australian accounting bodies, the two national standard-setting bodies can prepare two separate sets of similar accounting standards. This is a frequently adopted method (Choi and Mueller, 1984). For example, the NZSA, in setting its accounting standards, refers to the IASs to ensure consistency between the two sets of standards. Harmonization can also be achieved through the establishment of a common single standard-setting body for two or more countries. A good example of the unified approach to standard setting by two countries is that of the United Kingdom and Ireland. The professional accounting bodies of the United Kingdom and Ireland have established accounting standards jointly since 1974 through the Consultative Committee of Accounting Bodies (CCAB). The Institute of Chartered Accountants of Ireland has retained its participating rights under the new standard-setting scheme operationalized in 1990 (Mathews and Perera, 1993, pp. 114–115). The European Union (EU) (European Community (EC) until November 1993) is another prominent example of regulatory union. In this case, although there is no single accounting standard-setting body, the EU tends to harmonize the accounting standards of its member countries through its directives. Member countries participate in the preparation of the directives, and once the directives are issued, the substance of such directives is incorporated into national standards and laws.

The Cluster Approach

While there are environmental differences between countries, there are also a great many similarities among national accounting environments. It is therefore possible to identify groups of countries as clusters based on similarities that exist among their accounting principles and practices. Although the classification systems adopted by various accounting researchers (e.g., Nair and Frank, 1980; Nobes and Parker, 1985) are useful in identifying the specific characteristics of different groups or models, the groups themselves tend to be too broad in certain cases. A subdivision of some of the broad groupings would seem to lead to a better understanding of different accounting systems.

There has been a marked movement towards regional and bilateral agreements, and this trend will probably be intensified in the future. Even with a "successful" conclusion to the Uruguay round of the General Agreement on Tariffs and Trade (GATT) in achieving a breakthrough in breaking down barriers to world trade, economic regionalism will still play a significant role as a strategy in meeting the challenges of allegedly unfair competition in international trade. The current pattern of thinking among many nations with regard to regionalization is correctly reflected by the following statement although it concerns Pacific nations:

Pacific nations today are acutely aware that in an interdependent world, no nation can hope to solve all of its development problems alone. At the same time, none appears ready to embrace the concept of economic globalism. Regionalism is, therefore, preferred as a logical compromise between purely nationalistic and global philosophies. (Choi, 1979, p. 54).

Copeland and Butcher (1979) argue that regional groups have a greater political viability possessing a greater chance at lessening trade barriers. Many regional groups have been formed; some of these groups are embryonic or inactive while others such as the EU have gained world attention and prominence. The usual incentive to join together in a regional basis has either been for defense or trade purposes (Holmes et al., 1986). Both New Zealand and Australian governments seem to have realized that they should recognize and build upon what is common between the two countries to develop a regional identity, not as isolated outposts of Europe, but as a distinct South-West Pacific economic and cultural grouping. The initial success of CER enhances the concept of a regional group. Three factors would seem to have contributed to this: geographical proximity, a similar level of economic development, and the closeness of cultural (such as language and political) characterisitics.

Curnew and Simyar (1989) explored the implications of the Canada–US Free Trade Agreement (FTA) from a Canadian perspective (Mexico joined Canada and the United States under the North American Free Trade Agreement (NAFTA) more recently). In some respects the North American issues involved seem to be very much similar to those related to the CER agreement between Australia and New Zealand. For example, being the "smaller" partners, both Canada and New Zealand are quite understandably concerned about the implications of the respective agreements for their countries. Curnew and Simyar (1989) argued that the FTA presented many challenging questions on the fate of business and accounting on the grounds that "although Canada and the U.S.A. are friendly neighbours and share many common values, the two countries are different in many ways" (p. 1). They highlighted the differences in general environment: cultural, political, social, language, education, nationalism, taxes, etc.; in the business environment: capital markets, technology, research and development, markets and industries, tariffs and subsidies, currency, etc.; and in the accounting environment: standard setting, professional practice, research, education, etc. There seem to be more environmental similarities between New Zealand and Australia than between the United States and Canada (See Tower and Perera, 1989).

As a pioneer regional organization, the EU was established by the Treaty of Rome in 1957, to promote full freedom in the movement of goods and labour between member countries. (This organization has undergone a process of evolution over the years, from European Common Market (ECM) to European Economic Community (EEC) to European Community (EC) to European Union (EU)). It is a combination of governments grouping together with the hope of strengthening socio-politico-economic links. The EU currently consists of Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, the United Kingdom and Germany. One of the objectives of the EU has been the creation of a unified business environment, involving the harmonization of company laws and taxation and the creation of a community capital market. Copeland and Butcher (1979) discussed the similar traits possessed by all the EU member countries: all are

industrially based, wealthy with comparable standards of living, high trade links and good transport links, with similar political goals though having quite different domestic policy objectives. As mentioned earlier, the EU cooperation has had major accounting implications for its member countries through its directives for the harmonization of accounting standards. The major difference between the EU and the other regional agreements, such as the CER and NAFTA, is that the EU directives possess the force of law, giving the EU a rare advantage from an implementation and enforcement point of view (Choi and Mueller, 1984). The EU experience provides useful insights into the mechanics of accounting harmonization within a given cluster of countries.

The environmental conditions affecting accounting in New Zealand and Australia are so similar that the two countries could be classified as an accounting subgroup or a cluster within the British model. As Choi said, "A direct implication of this clustering thesis is that harmonization efforts within clusters may be a more fruitful and feasible development strategy than attempts to harmonize accounting standards on a worldwide basis" (1981, p. 29). This concept of accounting harmonization within regional clusters fits in well with the Australasian grouping.

3. Scope for Accounting Harmonization Between Australia and New Zealand

The scope for accounting harmonization between Australia and New Zealand can be examined by comparing the *status quo* in regard to the regulatory frameworks in the two countries. This is reflected in the regulatory structure, the mechanisms for formulating and enforcing accounting standards, the nature of the accounting standards, the users of accounting information, and the recent trends in this area in the two countries.

Accounting Regulatory Structures

Standard Setters

At the overall policy level the structures set in place to regulate accounting and financial reporting in Australia and New Zealand are very much dependent on the political systems of the respective countries, with the Australian structure being closely linked to its federal political orientation with state and commonwealth parliaments, and the New Zealand structure being linked with its single central government system.

The key features of the Australian accounting regulatory system are governed by the terms of an agreement reached in June 1990 between the Australian Commonwealth and the states. Under this agreement the Australian Corporations Act 1989 is to apply to each state and the Northern Territory with specific application of legislation promulgated by each state. The administration of the new legislation is within the sole province of the Australian Securities Commission (ASC). (The total companies and securities regulatory scheme in Australia is currently known as the Australian

Corporations Law). The Ministerial Council (comprising the relevant law Ministers of the Commonwealth, states and territories), created under the previous Cooperative Scheme for Companies and Securities, has only a consultative role and the Commonwealth has a weighted vote on company law matters, in respect of which the states have lesser powers (Baxt, 1990, p. 124).

At the apex of the standard-setting scheme in New Zealand the Minister of Justice holds the responsibility for the formulation and enforcement of corporate law. The Minister appoints the members of the Securities Commission and the Accounting Standards Review Board (ASRB) and other constituent bodies of the scheme. The Minister of Justice, in respect of corporate law, is the counterpart of the Commonwealth Attorney-General in Australia. The Minister has been delegated the authority under the Financial Reporting Act 1993 to create an Accounting Standards Review Board (ASRB) to oversee the preparation of accounting standards. Accounting standards approved by this body receive the backing of the law.

In Australia the main standard-setting body is the Australian Accounting Standards Board (AASB). Unlike its New Zealand counterpart, the AASB establishes and monitors financial disclosure standards recognizable under the Corporations Law 1991.

The New Zealand ASRB plays a role similar to that of the pre-1988 Australian ASRB. It only reviews and approves standards for the purposes of the Financial Reporting Act 1993. However, the Board is also authorized to provide policy guidance with regard to financial reporting by companies and public issuers. The Board is required to liaise with the AASB, with a view to harmonizing New Zealand and Australian financial reporting standards (*Financial Reporting Act 1993*, Part III).

Both the AASB and the ASRB are government-funded organizations. The AASB is composed of nine part-time members representing various sectors interested in accounting standard setting (see McGregor 1989a, 1989b; O'Leary, 1989). Its members are appointed by the Australian Commonwealth Attorney-General in the following manner:

the Chairman;

two members selected from a panel of names submitted by the Australian Society of Certified Practising Accountants (ASCPA).

two members selected from a panel of names submitted by the Institute of Chartered Accountants in Australia (ICAA);

four members selected from panels of names submitted by other organizations and bodies.

Although members are selected from panels of names submitted by various organizations, they are appointed in their own right and not as delegates or representatives of the organizations and bodies which advance their names (*ASRB Release 200*, 1985, pp. 3–4).

Compared to the AASB, the New Zealand ASRB is a much more loosely constituted body. It consists of four to seven members appointed from time to time by the Minister of Justice. The members generally possess knowledge of, or have experience in, business, accounting, finance, economics, or law. It has no specified membership distribution criteria similar to its Australian counterpart.

Formulation of Standards

The Australian Accounting Research Foundation (AARF) is the research and standard-formulating body in Australia. It was established jointly by the two professional accounting bodies in Australia: the ASCPA, and the ICAA. The standards formulated by the AARF are submitted to the AASB for approval. The AARF is also responsible for the administration of the AASB (AARF, 1991).

The ASCPA and the ICAA fund and manage the AARF, but under the current standard-setting arrangement they do not have exclusive authority for the approval of standards. Rather, they participate in the standards approval process through their membership on the AASB.

In New Zealand the Financial Reporting Standards Board (FRSB) is the financial reporting standard-setting arm of the New Zealand Society of Accountants (NZSA). The Board and its constituent committees are responsible for the preparation of accounting standards that are submitted to the ASRB for approval. Although other bodies can submit standards for approval, the Financial Reporting Act 1993 explicitly identifies the NZSA as a frequent source of standards (para. 24).

The NZSA is the sole professional accounting body in New Zealand. The NZSA functions under the *New Zealand Society of Accountants Act 1958,* which states that the Society is authorized "To control and regulate the practice of accountancy in New Zealand" (Section 3(4)(a)). Unlike the Australian bodies who relinquished their role as accounting standard approvers, the role of NZSA's National Council as an accounting standards approver, at the time of writing this paper (December 1993), is still not clear. Currently the Society's FRSB prepares accounting standards for approval and issue by the Council. As mentioned earlier, in order to obtain legal backing accounting standards need to be reviewed and finally approved by the ASRB.

Enforcement

Within the Australian national scheme the accounting standards that receive the approval of the AASB are given statutory recognition and are enforced by the Australian Securities Commission (ASC). Likewise, in New Zealand financial reporting standards approved by the ASRB are generally accepted accounting principles for the purposes of the Financial Reporting Act 1993 and have the full backing of the law. The approved standards will, however, be applied under the overriding concept of true and fair view. The Registrar of Companies is the watchdog for monitoring the compliance with statutes and regulations relating to companies, and the Securities Commission plays the role of monitoring compliance of corporate law by public issuers of securities as required by the Securities Act 1978. Therefore, in the New Zealand scene, both the Registrar of Companies and the Securities Commission together play a role comparable to that of the Australian Securities Commission (ASC).

In Australia compliance with approved accounting standards is generally required from companies that are incorporated under the Australian Corporations Law 1991 and its constituent Codes. Some companies may, however, be exempted, from time

to time, from such compliance. In New Zealand the scope of enforcement is wider than that of Australia. The approved accounting standards are applicable to companies (except those explicitly exempted by law), public issuers of securities and public sector entities. Australia is also moving into a similar scheme through the merger of the AASB and the Public Sector Accounting Standards Board (PSASB).

In both Australia and New Zealand, the primary obligation to ensure that accounting standards are being complied with lies with the auditors. The auditor of a company registered under the Australian Corporations Law has specific obligations in respect of whether accounts or group accounts conform with approved accounting standards. In particular, the auditor must furnish a copy of the audit report to the AASB where he/she is not satisfied that the accounts or group accounts comply with the approved accounting standards. Similar obligations are placed on auditors of New Zealand companies and public issuers by the Financial Reporting Act 1993.

Both the Australian and the New Zealand frameworks are based on co-regulation. Co-regulation has been achieved through a joint government–profession standard-setting mechanism.

Accounting Regulations

Substantial similarities exist between New Zealand and Australia in regard to accounting regulation. The concept of presenting a true and fair view in financial reports seems to prevail in the statutory requirements of both countries. The Australian accounting profession has embarked upon preparing accounting concepts statements which are being used to guide the preparation of all accounting standards for both private and public sector entities. Furthermore, the Corporations Law 1991 in Australia has retained the concept of reporting for the presentation of the true and fair view of the state of affairs and the profit and loss of the company. Similarly, in New Zealand, the Companies Act 1993 and the Financial Reporting Act 1993 prescribe the presentation of a "true and fair view" in company financial statements. The recent attempt to formulate a financial reporting framework in New Zealand has sought to prescribe other concepts: the concepts of fair reflection and fair presentation of financial position, performance and cash flows. However, the NZSA concedes that these concepts are synonymous with the concept of true and fair view. Therefore, the latter still governs the preparation of financial accounting standards of the NZSA (NZSA, 1993, para. 5).

For detailed accounting prescriptions, views prevailing in Australia seem to concur with the New Zealand approach of delegated legislation. The Australian Corporations Law 1991, similar to the New Zealand Financial Reporting Act 1993, relies on the accounting standard-setting system for the provision of detailed disclosure and accounting requirements.

Accounting standards in New Zealand and Australia for the most part cover similar issues and have comparable accounting requirements. The two countries do not have an equal number of standards nor do their standards correspond in terms of topics covered. However, accounting requirements within their standards, exposure drafts and other supplementary promulgations, such as technical practice aids and accounting guidelines, are generally similar although some differences exist in certain

areas such as business combination accounting and cash flow accounting (for more detail see Appendix).

The Users of Financial Information

According to *ASRB Release 100* (1985, p. 6), the prime users of financial reports in Australia are the shareholders (or potential shareholders) and the creditors (or potential creditors), but the AASB also recognizes other users, like governments or government agencies, consumer groups, employees or unions. The AARF (1990) defined users to include resource providers who may be compensated directly or indirectly for the resources provided. This group includes employees, lenders, creditors, suppliers, investors, and contributors; in the case of public sector organizations users include parliament, taxpayers, ratepayers, recipients of goods and services, such as customers and beneficiaries, and those performing a review or oversight function [Statement of Accounting Concepts (SAC-2)].

The user groups identified by the NZSA are very similar to those mentioned above; for example, NZSA (1993) mentions providers of resources (suppliers, lenders, investors, taxpayers, or donors), representatives of groups, such as voters or shareholders, analysts, and members of the media as examples of users who may be dependent on an entity's general-purpose financial reports (para. 2.3).

Recent Trends

The Australian standard-setting system has been the subject of two proposals for change. The first proposal mainly focuses on the institutional aspects of standard setting, whereas the second proposal mainly deals with the process of standard setting.

The first proposal was made in August, 1990, whereby the AARF proposed a new independent standard-setting structure (Peirson, 1990). The proposal attended to a wider group of beneficiaries called "constituents" rather than "users of financial reports." Constituents, it defined, are those individuals and organizations that have a legitimate interest in financial reporting. They would include users, preparers, government departments acting as watch-dogs, and professional bodies.

The proposal suggested an Australian Accounting Standards Foundation (AASF). The AASF, it envisaged, would play a role similar to the current AARF. It would assist the Accounting Standards Board (AcSB) in preparing accounting standards, by providing administrative and technical support. The Board of Management of the AASF would be approximately 10 members generally representing the constituents. However, the members would be appointed in a personal capacity rather than as representatives of the groups nominating them. The Board would prepare and administer the business plan of the AASF and its constituent bodies.

The proposal suggested the replacement of the AASB with a new body called the Accounting Standards Board (AcSB). The AcSB would prepare, approve and issue accounting standards for all private and public sector entities in Australia. It would have nine part-time members appointed by the AASF's Board of Management and have a full-time chairperson.

The proposal also suggested the creation of two consultative groups: one for the private sector and one for the public sector. They would each comprise about 20 members broadly representative of the constituents. The consultative groups would advise the AcSB on major technical issues, work program, project priorities, adequacy of due process, and other relevant matters. Funding of this proposed scheme would be broad based. Sources of funds would include self-funding through publications and royalties, accounting bodies, Australian Securities Commission and Australian Stock Exchange levies on registered and listed companies, and government. Accounting bodies would require their members to comply with AcSB approved standards. Legislative support to enforce standards on all private and public sector entities would have to be approved by the Commonwealth and the states through the coordinating mechanism of the Ministerial Council for Companies and Securities. Apart from some adjustments to the institutional arrangement, such as the renaming of the previous ASRB to AASB and increasing of the membership of that Board from seven to nine, nothing significant has yet been done to implement these proposed reforms.

Subsequent to these changes, the AARF issued in September 1992 an exposure draft, ED 57 "Present Procedures for the Development of Statements of Accounting concepts and Statements of Accounting Standards," to seek views on how the standard-setting process could be improved. The feedback received has shown strong support for increased exposure, discussion, and consultation with respect to proposed standards, and the merger of AASB with PSASB (Day et al., 1993). Some of these concerns are already being implemented. Among the major structural changes, only the merger of PSASB and AASB has been seriously considered. This merger would make AASB's scope of influence identical to that of New Zealand's recently established ASRB by putting both public sector and private sector standard setting under one authority.

In the accounting regulatory front, Australia seems to be a step ahead of New Zealand in regard to the statutory requirements for financial disclosure. However, both countries seem to be on a similar track in providing for the overall guidance in the companies acts and delegating the preparation of detailed rules to a separate independent body.

The recent events in New Zealand have taken its accounting regulatory structure even closer to that of Australia. Under the CER program this trend would also encompass other areas of company regulation (Vautier et al., 1990, pp. 9–10; McLennan, 1991, pp.77–78). As a result, the two countries in due course would have two very similar regulatory regimes. Furthermore, due to the increase in trade and investment between the two countries, there will be a growing number of companies operating on both sides of the Tasman. Therefore, the two matching systems would eventually appear to be regulating two similar sets of companies. Under such a scenario, the logical step would be to unify the two regulatory mechanisms. If this measure is not taken proactively, it is very likely that the companies in an economic free trade zone under the CER will demand uniformity of laws and regulations for the efficient operation of their business activities. This would lead to some form of harmonization or unification. Aversion to dual compliance policies of the two countries is already being seen as a reason for harmonization of corporate and business laws (Vautier, 1990, p. 9). Business leaders from both sides of the

Tasman are focusing their attention on the impediments to CER which include legal/ regulatory differences (McLennan, 1991, p. 78).

The situation between New Zealand and Australia can be compared with the developments in the EU and Australian state regulatory schemes. The EU had its origins in trade and investment across national boundaries, which led to a legal and political association. Significant within that association is the harmonization of company law and accounting regulations. Likewise, the Australian States and Territories had separate companies and securities legislations until 1981. Over the years as trade and investment improved between states and as companies progressively increased operations across state borders the demand for uniform legislations grew, finally evolving into a cooperative scheme and then a unified regulatory scheme for companies and securities (Rahman, 1992).

4. Towards an Accounting Regulatory Union Between New Zealand and Australia

Mode of Unification

There is a clear resemblance between the existing accounting-standard setting schemes in Australia and New Zealand. The important elements of these schemes are shown in Table 1. The discussion in the previous section along with Table 1 highlights the point that the elements within the proposed New Zealand scheme have a close one-to-one correspondence with the major elements of the existing Australian scheme. The only major difference is at the apex, where the form of the policy-making mechanism adheres to the legislative structure, i.e., with Australia having its Ministerial Council in a federal system and New Zealand having the parliament directly as the guiding body in a single parliament system. As for the regulated entities, there is only a superficial difference between the two countries, New Zealand having public issuers and Australia not having public issuers as regulated entities. However, most public issuers who are listed on the Australian stock exchange are corporate entities and hence are part of the regulated constituents (Ryan et al., 1991).

Based on the observations made earlier regarding probable economic and legal unification between Australia and New Zealand and the observed congruence between the two countries' company and accounting regulatory settings, it is suggested here that the accounting regulatory mechanisms of New Zealand and Australia be merged. Australia has already modified its accounting regulatory mechanism to adapt to the changing financial reporting needs. The existing and proposed schemes of standard setting are evidence of such adaptation. The current Australian system has weathered and matured over the last ten years and it is undergoing further improvements. Since New Zealand is closely following Australian regulatory developments, it is suggested here that one pragmatic mode of harmonization would be the inclusion of New Zealand in the Australian scheme.

For such a merger New Zealand would have to join the Australian scheme at two levels. First, it is essential that the company laws are harmonized because company

Table 1. Elements of accounting regulation: a comparison of Australia and New Zealnad

Elements of regulation	Australia	New Zealand
Structure		
Policy making	Ministerial Council	Parliament
	Government Minister (Federal Attorney-General)	Government Minister (Minister of Justice)
Standard setting	Government-created independent body (AASB)	Government-created independent body (ASRB)
Standard formulation	Profession-backed research body (AARF)	Profession-backed research body (FRSB)
Enforcement	Government body (ASC)	Government bodies (Registrar of Companies and Securities Commission)
Regulated	Companies and public sector entities	Companies, public issuers and public sector entities
Beneficiaries	User of financial reports	User of financial reports
Concept of reporting	True and fair	True and fair
Mode of regulation	Accounting standards	Accounting standards
Mode of enforcement	Legislative backing for standards	Legislative backing for standards

laws in Australia and New Zealand do affect accounting standards (Tower and Perera, 1989). To this end New Zealand would have to join Australia in a cooperative scheme similar to the Australian cooperative scheme for companies and securities. Second, having achieved company law harmonization through participatory rights in the formulation of such laws, New Zealand can then seek participatory rights in the establishment of accounting standards.

For New Zealand to join Australia in a company law cooperative scheme, the Justice Minister of New Zealand and the Australian Attorney-General would need to form a Ministerial Council to oversee the legislative activities in the two countries. Australia and New Zealand being two separate political entities, the two countries would naturally want to retain their company law-enforcing agencies, the ASC in Australia and the Registrar of Companies and the Securities Commission in New Zealand. This need not be an impediment to harmonization. Rather it may help in overcoming environmental peculiarities of the two countries when applying the standards.

Furthermore, New Zealand can seek a proportionate membership for the various sectoral participants in the AASB or the proposed AcSB. The FRSB already has the observer status at the AASB meetings. The number of membership slots offered to New Zealand should ensure that there would be at least one member from major interest groups, such as the NZSA, preparers of financial reports, the New Zealand Stock Exchange, and users of financial reports. To strengthen participation between preparers and to minimize costs, the FRSB in New Zealand can be merged with the Australian AARF or the proposed AASF. This would allow New Zealand the

opportunity to be involved in the standard-setting process right from the conception of each new standard.

Advantages and Disadvantages of the Proposed Merger

It is emphasized here that the proposed merger would be cost effective. The envisaged cooperative scheme for companies and securities between the two countries will be a participatory association and will not require a new bureaucratic machinery. Similarly, the cost for New Zealand in gaining participatory rights in the Australian AASB/AcSB and the AARF/AASF would not be excessively high, at least not higher than having a separate standard-setting mechanism in New Zealand. In Australia it took 16 years to create an ASRB and another four years to bring it to a more acceptable shape (Rahman, 1992) and it is still changing due to pressure from constituents. In New Zealand the Sharemarket Inquiry Establishment Unit and the Securities Commission spent over two years each to recommend the idea of an ASRB. It took another three years to establish the Board. Moreover, efforts are being made in New Zealand to develop a financial reporting framework. In June 1993, the NZSA issued two statements under its framework, i.e., the Explanatory Forward to General Purpose Financial Reporting and the Statement Concepts for General Purpose Financial Reports. The concepts statement is identical to the equivalent Australian statements particularly in regard to the definition of the elements of financial statements. The major cost saving from the merger would be from avoiding the effort and expense of having to "reinvent the wheel." In other words, after the merger, New Zealand would not have to repeat the process of designing an accounting regulatory framework similar to that of Australia.

There is also the expense of running the ASRB and the preparation of standards by the NZSA (Tower, 1990). Such expenses could be avoided to a certain extent or directed to more efficient use by joining with the AASB/AcSB and participating in the AARF/AASF research process. The only substantial addition to expenses would be that arising from the implementation of the laws under the cooperative scheme. To enable the implementation of the laws of the cooperative scheme, New Zealand would have to pass an Act of Parliament similar to those of the Australian states that allow the application of Commonwealth (federal government) acts in those states.

Compliance is an area where the business entities may experience direct cost savings. Currently, New Zealand and Australian businesses operating in the two countries must comply with dual sets of financial reporting requirements. In principle the two sets are generally similar, but they vary in the manner the prescriptions are laid out in the acts and the accounting standards. However, for certain requirements there are major differences (see Appendix). These incongruencies, it is felt, do create additional costs for financial reporting. With a single set of rules to comply with, business entities can remove the dual compliance costs if they are registered or listed on both sides of the Tasman. Greater cost reductions can be brought about if the two countries merge their business laws into a single set (see Vautier, et al., 1990). Some steps have already been taken in this direction. The CER agreement itself suggests harmonization of business law and the New Zealand Securities

Commission has suggested a closer look at the ways and means of removing the differences between the Australian and New Zealand financial reporting requirements (Securities Commission, 1990, p. 74).

Another benefit arising from the merger would be the enhancement in the comparability of financial reports produced in New Zealand and Australia, especially for the same company trading in the two countries. Joint venture arrangements between companies of the two countries would also be benefited because such companies can exchange information prepared on the same basis, thus avoiding the need for translating information of their counterparts in the other country.

The only major impediment to the proposed merger would be the loss of autonomy on the part of New Zealand. New Zealand, being the smaller partner in the CER agreement, may prove to be less influential than Australia and its larger states in the joint policy-making processes. However, it can be argued that the benefits of merger would outweigh the losses due to reduced autonomy. Furthermore, there is nothing to stop New Zealand from enacting laws for the application of the unified regulations to suit situations that are unique to New Zealand. Therefore, loss of autonomy is not an insurmountable obstacle.

It is also felt here that further research needs to be conducted to identify the important environmental factors influencing accounting regulatory structures in the two countries with a view to providing insights into the implementation of the proposed union.

5. Conclusion

This study, focusing on a number of areas of accounting regulation, supports the suggestion that there is a possibility of the harmonization of accounting standards between the two countries. In this paper the existing and the proposed accounting regulatory schemes of both New Zealand and Australia were examined to provide a background for the rest of the discussion. The likely scenarios of the two countries were compared and major similarities between them were identified. It was demonstrated that the recent Australian developments in accounting regulation are remarkably similar to the latest developments in this area in New Zealand. Based on those observations and the need for harmonizing accounting standards, it is suggested that New Zealand should directly participate in the Australian scheme.

The proposed Accounting Regulatory Union would be cost efficient. The financial accounting standards would be enforceable on both sides of the Tasman and the comparability of the financial reports produced in the two countries could be greatly enhanced. It would also facilitate the preparation of financial reports of companies operating in both countries.

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Appendix: Major Differences in Accounting Standards of Australia and New Zealand

	Australia		New Zealand	
Issue	Standard	Prescription/allowance	Standard	Prescription/allowance
Business combination	AASB 1013, 1015 and 1024 and AAS–18 and 24	Pooling not allowed	SSAP-8	Pooling allowed when acquirer can be identified
Cash Flow	AASB 1026 and AAS-28	Cash includes cash and cash equivalents	FRS–10	Cash includes only cash
Extractive industries	AASB 1022 and AAS-7	Requires area of interest method	TPA–6	Favors successful efforts method
Associates	AASB 1016 and AAS-15	Equity accounting information to be disclosed in notes	SSAP-8	Equity accounting information to be disclosed in the main body of the accounts
Research and development	AASB 1011 and AAS-13	No distinction between research and development costs	SSAP-13	Distinction between research and development costs
Foreign currency translation of foreign operations	AASB 1012 and AAS-20	Current rate method for self sustaining entities	SSAP-21	Closing rate method for self-sustaining entities
Other standards and guidelines for which the other country does not have any comparable promulgation[a]		Fringe benefit tax, capital gains tax, pensions, and share buybacks		Interest in partnership government grants, livestock and bloodstock, prospective financial statements, employee share ownership plans financial instruments, partnerships, goods and services tax, contingencies, and investment properties

continued

Appendix continued.

	Australia		New Zealand	
Issue	Standard	Prescription/allowance	Standard	Prescription/allowance
Format of standards		Prescriptions followed by discussion		Old standards: discussion followed by prescriptions New standards: prescriptions followed by discussion
Language of standards		Legalistic		Moving towards legal form
Content		Driven by the conceptual framework		Conceptual framework being developed

[a]Some of these differences exist because of the dissimilarities in the reporting environment. For example, goods and services tax and capital gains tax standards are outcomes of the differences in the prevailing tax regimes of the two countries. As for contingencies, Australian requirements mainly emnanate from the Corporations Law rather than the accounting standards.

AASB = Approved accounting standards of the AASB.
AAS = Australian Accounting Standard, the standards of the professional bodies that have not been approved by the AASB.
SSAP = Statement of Standard Accounting Practice, the standards of the professional body, NZSA, that have not been approved by the ASRB.
FRS = Financial Reporting Standards, standards being prepared for approval by the ASRB.
TPA = Technical Practice Aids. These are guidelines, not standards.

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Voluntary Disclosure in an Emerging Capital Market: Some Empirical Evidence from Companies Listed on the Kuala Lumpur Stock Exchange

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Key words: Agency theory; Emerging capital markets; Kuala Lumpur Stock Exchange; Voluntary disclosure.

Abstract: *With Malaysia playing an increasingly important role in international markets, many overseas investors are investing on the Kuala Lumpur Stock Exchange (KLSE). As a consequence, the level of information disclosed by listed companies is becoming an increasingly important issue for prospective investors. This study empirically examines the influence of six firm-specific characteristics on the general level of voluntary disclosure in the annual reports of companies listed on the KLSE. The six variables tested are firm size, ownership structure, leverage, assets-in-place, size of audit firm, and foreign listing status. The empirical evidence suggests that firm size, ownership structure, and foreign listing status are statistically related to the level of information voluntarily disclosed by publicly traded companies. These findings are consistent with the predictions of agency theory. In contrast, leverage, assets-in-place, and size of audit firm do not appear to be important factors in explaining voluntary disclosure by firms. In conclusion, it is argued that the study makes a positive contribution to enhancing our knowledge of corporate financial reporting and disclosure practices in emerging capital markets, and provides a basis for the conduct of future research.*

1. Introduction

Emerging capital markets,[1] especially those in ASEAN,[2] countries (Association of South East Asian Nations) have become increasingly important in the international investment scene. Several studies (e.g., Errunza, 1983; Divercha et al., 1992; Wilcox,

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1992; Oppong, 1993) report that foreign equity investment in ASEAN markets has increased substantially in recent years, and that consequently there has been a growth in the number of overseas-controlled companies quoted on ASEAN stock exchanges (Rowley, 1987). However, while interest from investors in ASEAN markets has been growing, very little research has been undertaken on accounting and disclosure practices in these markets (Meek and Saudagaran, 1990, p. 148).

The purpose of this study is to examine the factors that influence the general level of information voluntarily disclosed by companies listed on the Kuala Lumpur Stock Exchange (KLSE). The level of voluntary information disclosure is tested with regard to six firm-specific characteristics, namely: firm size, ownership structure, leverage, assets-in-place, size of audit firm, and foreign listing status. Malaysia is the particular focus of this study because of its growing economic importance. Indeed, the Asian Development Bank (1993, p. 20) forecasts that Malaysia's economic growth will "... continue to be one of the strongest in the world for at least the next two years." Moreover, the International Finance Corporation[3] (1990, p. 103), in a recent survey of emerging capital markets, ranks the KLSE as the third largest emerging stock market in terms of business turnover, after Taiwan and South Korea, Therefore, this study should provide useful insights into corporate disclosure practices in an increasingly important emerging capital market.

The remainder of this paper is organized as follows. Section 2 provides an overview of the accounting and regulatory environment in Malaysia. Section 3 identifies the six research hypotheses, derived from agency theory, which are tested in the study. Section 4 explains the research methods employed, while Section 5 analyses and discusses the research results. Finally, the conclusions of the study, its limitations, and the scope for future research are considered briefly in Section 6.

2. The Accounting and Regulatory Environment in Malaysia

Companies which wish to be quoted on the KLSE must meet a number of accounting requirements set out by both the KLSE and the Malaysian Securities Commission.[4] Prior to the granting of listing status, the KLSE requires companies to lodge a full set of annual accounts, including a statement of source and application of funds. The accounts and notes should disclose items deemed to be relevant to investors, such as the level of turnover; the amount of investment and other income; directors' interests in the company (or related companies); details of shareholders and the value of their equity; and details of company properties. Further, the KLSE has the right to request clarification or additional information on any aspect of a company's activities at any time. In spite of these provisions, the KLSE has been criticized for not fully exercising its rights or taking stringent action when the reporting requirements have not been fulfilled (International Finance Corporation, 1990).

Apart from these specific listing requirements, the KLSE also requires companies to prepare annual audited accounts in accordance with the Ninth Schedule to the Companies Act 1965 and the accounting standards and pronouncements of the Malaysian Institute of Accountants (MIA). The Ninth Schedule prescribes only minimal disclosure requirements for profit and loss accounts and balance sheets of

companies. While the 1965 Act requires published accounts to present a "true and fair" view, no statutory definition is accorded to this term. Therefore, the accountancy profession plays an extremely important role in supplementing statutory reporting provisions.

The MIA is the accounting standard-setting body in Malaysia. The MIA has extensive powers, established under the Accountants Act 1967, to ensure that members adhere to the 25 international accounting standards and six MIA promulgations that comprise the generally accepted accounting principles (GAAP) in Malaysia. Moreover, the published annual accounts of Malaysian-based companies are required by the Companies Act 1965 to include statement confirming that they are prepared in accordance with approved accounting standards. Nevertheless, most companies based in Malaysia tend to voluntarily disclose more information than the minimum requirements prescribed by company law and GAAP (Tan et al 1990).

3. Hypothesis Development

A number of explanations have been advanced in the literature to explain why a firm may provide more information than is mandated. For example, it is argued that voluntary disclosure lowers agency costs (e.g., Jensen and Meckling, 1976; Chow and Wong-Boren, 1987); reduces the cost of capital (Choi, 1973; Foster, 1986; Diamond and Verrecchia, 1991; Lev, 1992); and improves the market price of securities (e.g., Fishman and Hagerty, 1989). Agency theory in particular has been employed extensively in the accounting literature to explain disclosure practices in many countries, although not in Malaysia. Therefore, this study employs agency theory as the framework for the performance of empirical analysis. Six important variables that capture the constructs of agency theory with regard to voluntary disclosure are discussed below.

Firm size

Many disclosure studies (e.g., Chow and Wong-Boren, 1987; Cooke, 1989, 1991) suggest that there is a positive relation between firm size and the extent of voluntary disclosure. Leftwitch et al., (1981) and Ball and Foster (1982) maintain that firm size is a comprehensive variable which can proxy for a number of corporate attributes, such as competitive advantage, information production costs, and political costs. Thus, there are a number of arguments in the literature that seek to explain the relationship between firm size and voluntary disclosure. For example, Buzby (1975, p. 18) suggests that because the "...accumulation and dissemination of information is costly, smaller firms may not possess the necessary resources for collecting and presenting an extensive array of information." Moreover, since larger businesses tend to be listed on stock exchanges (including foreign stock exchanges), they will be motivated to make greater disclosure in order to create or maintain strong demand for their securities.

Dye (1985), and Craswell and Taylor (1992), among others, propose a proprietary cost explanation for voluntary information disclosure by companies. They argue

that proprietary costs are industry-specific and likely to be inversely related to firm size. Hence, managers of smaller firms are more likely than their counterparts in large firms to feel that full information disclosure in the published annual reports will put their firm at a competitive disadvantage. Another reason that has been put forward for expecting a positive relation between size and voluntary disclosure is the demand for information by financial analysts. For example, Schipper (1991) and Barry and Brown (1986) argue that the annual reports of large firms are more likely to be scrutinized by financial analysts than those of smaller firms. These authors argue that large listed firms have an incentive to voluntarily disclose more information than smaller firms since non-disclosure may be interpreted by investors as "bad news" and this could adversely affect firm value. Thus, larger firms may be subject to greater demand by analysts for private information.

Watts and Zimmerman (1986) and Cahan (1992) put forward political visibility as another potential reason for expecting a positive relationship between firm size and voluntary disclosure. They argue that managers of politically vulnerable firms are likely to voluntarily choose accounting and disclosure policies that reduce reported earnings, and thereby limit the cost of political intervention (such as higher taxation). Likewise, Firth (1979) suggests that firms which are more visible in the "public eye" are likely to voluntarily disclose information to enhance their corporate reputation and public image. In the agency theory literature, Jensen and Meckling (1976) contend that agency costs[5] increase with the amount of outside capital. Agency theory predicts that larger firms will disclose more information in their accounts to alleviate the potential for wealth transfers from suppliers of outside capital to managers. Consequently, our first hypothesis is:

> *Hypothesis 1:* Large firms are more likely to provide financial information voluntarily than small firms.

Ownership Structure

Modern corporations are characterized by the separation of ownership from control (Fama and Jensen, 1983). Agency theory suggests that where there is a separation of ownership and control of a firm, the potential for agency costs arise because of incentive conflicts between contracting parties. Fama and Jensen (1983, p. 309) assert that where share ownership is widely held, the potential for interest conflicts between principals and agents is greater than in more closely held companies. Discretionary information disclosure is therefore likely to be greater in widely held firms so that principals can effectively monitor that their economic interests are optimized, and agents can signal that they are acting in the best interests of the owners.

Empirical evidence relating the influence of ownership structure to the extent of voluntary disclosure is mixed. For instance, McKinnon and Dalimunthe (1993) found a significant association between ownership structure in diversified Australian companies and voluntary segment disclosure, while Craswell and Taylor (1992) found no significant association between ownership structure and voluntary disclosure of reserves in the Australian oil and gas industry. This issue forms the basis of our second hypothesis:

Hypothesis 2: The extent of voluntary disclosure is higher for firms with a low concentration of share ownership than those with a high concentration of share ownership.

Leverage

Jensen and Meckling (1976) and Myers (1977) use agency theory to argue that potential transfers of wealth from bondholders to shareholders can take place in highly leveraged firms. To protect their economic interests, agency theory predicts that restrictive covenants may be written into debt contracts. In addition, management may voluntarily disclose information in financial reports for monitoring purposes. Thus, agency theory predicts that the level of voluntary disclosure increases as the leverage of the firm grows. Again, the empirical evidence on this hypothesis is contradictory. For instance, Bradbury (1992) found a positive association between leverage and the extent of voluntary segment disclosures among New Zealand firms, while Chow and Wong-Boren (1987) found no significant statistical relation between the two in Mexican companies. Our third hypothesis is thus:

Hypothesis 3: The extent of voluntary disclosure is higher for firms with a greater proportion of debt in the capital structure than for those with a lower proportion of debt.

Assets-in-place

Myers (1977) suggests that value of a firm is composed of two elements. The first element represents "real assets," the market values of which are independent of the firm's investment strategy (called assets-in-place). The second element represents "real options," the value of which depends upon future discretionary investments (called assets yet to be acquired). He contends that wealth transfers from debtholders to shareholders are less likely to occur in firms with a larger proportion of assets-in-place, since lenders can more easily write covenants restricting shareholders' use of those assets in debt agreements. This implies that the extent of voluntary disclosure will be inversely related to the proportion of assets-in-place in a firm. However, prior empirical research (e.g, Chow and Wong-Boren, 1987; Bradbury, 1992) tends not to support this prediction. As the relation between voluntary disclosure and assets-in-place has yet to be tested empirically in Malaysia, we hypothesis that:

Hypothesis 4: The extent of voluntary disclosure is greater for firms with a relatively low proportion of assets-in-place than for firms with a relatively high proportion of assets-in-place.

Audit Firm

Many previous studies have examined empirically the relation between the size of audit firm and the extent of voluntary disclosure by companies (Singhvi and Desai, 1971; DeAngelo 1981; McNally et al., 1982). Moreover, Jensen and Meckling (1976),

Watts (1977), and Watts and Zimmerman (1983, 1986) consider that auditors play a major role in limiting opportunistic behaviour by agents, thereby reducing the agency costs borne by principals and agents. Watts and Zimmerman (1986) argue that auditors also incur costs from entering into contracts with audit clients, and so will influence clients to disclose as much information as possible in their annual reports. For instance, they argue that auditors with high reputational capital at stake, such as the "Big-Six firms,[6] are less likely to be associated with clients that disclose low levels of information in their published annual reports. This implies that size of audit firm (e.g., as measured by number of clients) is likely to be positively related to the overall level of information voluntarily disclosed by firms.

Empirical support for the agency theory prediction that voluntary disclosure is related to audit firm is contradictory. For instance, Craswell and Taylor (1992) found a statistically significant relation between auditor and voluntary reserve disclosure in the Australian oil and gas industry, while Malone et al., (1993) found no significant statistical relation between auditor and the extent of financial disclosure by US oil and gas companies. Further, in a Malaysian study which explored whether firm size and type of auditor were associated with the extent of corporate disclosure, Tan et al.,(1990) also found no support for the notion that audit firms substantially influence the disclosure strategies of companies. The Malaysian evidence regarding the influence of audit firm on voluntary disclosure is re-tested by our fifth hypothesis as follows:

Hypothesis 5: The extent of voluntary disclosure is higher for firms that employ a larger (Big-Six) auditor than those that employ a smaller auditor.

Foreign Listing Status

According to Chow and Wong-Boren (1987), the stock exchange listing status of a company is a mechanism which helps to reduce the interest conflicts between principals and agents. Schipper (1981) suggests that the link between voluntary disclosure and listing status can be either complementary or substitutive. If the link is complementary, then voluntary disclosure will better help foreign investors to monitor their economic interests. Thus, the extent of voluntary disclosure will be greater in those firms that are also listed on overseas stock exchanges. In contrast, they may be substitutive in that listing on an overseas stock exchange could help to reduce agency costs in the firm. For example, the act of listing on a stock exchange can help to improve a firm's reputational capital and reduce the need for voluntary disclosure to signal that agent-managers are acting in the interests of principal-owners. Thus, the substitutive perspective considers that listing on stock exchanges will reduce the levels of voluntary disclosure.

Recent empirical studies (e.g., Cooke, 1991; Leftwitch et al., 1981, Malone et al., 1993; Meek and Gray, 1989; Saudagaran and Biddle, 1992) suggest that there is a positive (complementary) relationship between voluntary disclosure levels and a firm's listing on foreign stock exchanges. Collectively these studies report that if companies accumulate additional information to comply with a multiplicity of stock exchange reporting requirements, then they are more likely to disclose more

information in their annual reports than firms which are not subject to a variety of international reporting rules. In an earlier study, Choi (1973) showed that a group of companies issuing Eurobonds voluntarily improved financial disclosure levels compared to a control group of firms that did not issue Eurobonds.

Overall, most of the prior research suggests that there is a positive association between foreign listing status and the extent of voluntary disclosure. Accordingly, we hypothesise that:

Hypothesis 6: The extent of voluntary disclosure is higher for firms listed internationally than for firms listed on the domestic exchange only.

4. Research Method

Assumptions

The study is based on the assumption that the annual report is the most important mechanism through which the company disseminates information to shareholders and prospective investors, and others. We acknowledge that companies frequently disclose information through other channels, such as the media, interim financial statements, and preliminary announcements to the stock exchange. However, such forms of information disclosure are outside the scope of this study.

Sample

The 67 publicly traded companies covered by this study were randomly selected from the 279 non-financial companies listed on the KLSE on December 31, 1991 and in the *Annual Companies Handbook* (1991) published by the KLSE. This sample represents approximately 24 percent of the population of Malaysian-based companies for which published annual reports were readily available at the time that the study was carried out. The 41 financial services organizations (e.g., banks, insurance companies) listed were excluded from the sample because they report under a different statutory basis. Twelve of the 67 companies were also listed on the London Stock Exchange (LSE).

Research Instrument

The 1991 year-end annual reports were obtained from the selected companies. These annual reports represent the most recent source of data available at the time of the study. The main task was to identify the items of voluntary disclosure that a firm may provide in its annual report and to compute a disclosure score for each firm. The following steps were taken to construct the disclosure index:

(1) Drawing on a large number of prior studies (Choi, 1973; Buzby, 1975; Firth, 1979; McNally et al., 1982; Chow and Wong-Boren, 1987; Tonkin, 1988; Bavishi, 1989; Cooke, 1989, 1991; Gray et al., 1992), a preliminary list of 110 discretionary disclosure items was derived.

(2) To eliminate mandatory items the list was screened by referring to the accounting standards promulgated by the MIA, the Companies Act 1965 and the KLSE listing requirements. This eliminated 20 items that were either mandatory disclosures, or irrelevant in the Malaysian context.

(3) Discussions were then held with three Malaysian practising accountants and three bank managers to verify the list. Their feedback was used to refine the list of discretionary items.

By this means we arrived at a disclosure index comprising of 78 discretionary items (see Appendix 1). Approximately 50% (39) of the discretionary items are similar to those selected by Gray et al (1992). Since companies listed on overseas stock exchanges are also subject to the reporting requirements of other countries, the items included in the disclosure index were also examined to ensure that none of the voluntary disclosure items identified were required by the regulatory agencies of other major countries. This approach is consistent with that of Gray et al., (1992), who developed a voluntary disclosure index for US and UK multinational corporations which excluded items required by regulatory agencies in other major countries.

Once the disclosure index was developed, a scoring sheet was prepared to assess the extent of voluntary disclosure exhibited by each of the sample firms. Disclosure levels of firms can be measured in a number of different ways. Robbins and Austin (1986) developed a scheme in which qualitative items were rated according to their degree of specificity. Such an approach results in a scale of disclosure which varies between 0 and 1, but the allocation of scores is reported to be highly subjective (Cooke, 1989, p. 182). Under the alternative commonly used approach, and the one adopted here, a discretionary item (whether financial or non-financial) scores 1 if it is disclosed, and 0 if it is not disclosed (e.g., see Firth, 1980). The firm scores so derived are unweighted and based on the assumption that each item of disclosure is equally important. Support for this approach comes from previous studies, which report that the choice of an unweighted index over a weighted one does not produce substantially different results (e.g., Chow and Wong-Boren, 1987, p. 537). Arguments have also been made in the literature concerning the subjectivity of assigning weights, in that "when user preferences are unknown, different classes of user are likely to assign different weights to similar items" (e.g., Gray et al., 1992). Spero (1979) also favors the use of unweighted indices.

For each company, the disclosure index is measured as the ratio of the actual score awarded to the maximum possible score appropriate for that company (see Appendix 2). As a result, companies were not penalized for not disclosing an item if it was deemed to be irrelevant to its activities.[7] As with previous studies (e.g., Cooke, 1989, 1991) the entire annual report of each company was read in order to determine relevancy of disclosed items to the firm. To control for potential bias, two independent accountancy professionals were engaged to peruse the annual reports and to rate the level of voluntary disclosure for each company using the derived disclosure index. Like Chow and Wong-Boren (1987), the company scores of the independent raters were then averaged to derive the disclosure indices used in the study.[8]

The independent variables were measured, using data obtained from the *1991 Annual Companies Handbook* published by KLSE, as follows:

(1) *Firm size* is measured by the natural log of market capitalisation.[9]

(2) *Ownership structure* is measured as the number of shares held by the top 10 shareholders as a proportion of the total number of shares issued.

(3) *Leverage* is the ratio of the book value of long-term debt to the book value of owners' equity.

(4) *Proportion of assets-in-place* is represented by the ratio of book value of fixed assets (net of depreciation) to the book value of total assets.

(5) *Auditor* is represented by a dummy variable of 1 if the company is audited by one of the Big Six audit firms, and 0 otherwise.

(6) *Foreign listing status*: a dummy is used, taking the value of 1 for companies listed on the KLSE, plus at least one foreign stock exchange listing, and 0 for companies listed only on the KSLE.

To test the six research hypothesis, both univariate and multivariate statistical tests were performed. The results are presented and discussed in Section 5.

5. Results

Univariate Analysis

Table 1 gives the descriptive statistics for dependent independent variables included in the study. To examine the correlation between the dependent and continuous independent variables (firm size, ownership structure, leverage, assets-in-place), Pearson product-moment correlation[10] coefficients (r) were computed (see panel A of Table 1). The bivariate statistical results show that disclosure scores are significantly correlated with firm size ($\rho < 0.001$); and ownership structure ($\rho < 0.01$), while the correlation between disclosure scores and leverage is marginally significant ($\rho < 0.10$). These findings are consistent with the predictions of agency theory. However, with regard to disclosures and assets-in-place, there is no significant correlation between the two, contrary to the predictions of agency theory.

Moreover, two statistical test were performed to assess whether audit firm size had an impact on the overall level of voluntary disclosure. These were a Student's t test and a Mann–Whitney U test. The results of the student's t test presented in Table 1 (panel B) suggest that there is a significant difference in disclosure scores ($\rho < 0.01$) between companies audited by Big Six audit firms and those audited by non Big Six firms. This implies that firms that employ a larger audit firm (Big Six) are likely to disclose more information compared to firms that employ a smaller audit firm (non Big Six). The Mann–Whitney U test yields a Z statistic –2.955 ($\rho < 0.01$), which supports the results of the Student's t test. These two statistical tests were also employed on data provided in Table 1 (panel C) to test for the differences in mean disclosure scores between domestic listed and foreign listed companies. The Student's t test results show that there is a statistically significant difference ($\rho < 0.05$) in disclosure scores between the two groups. It appears that firms quoted

Table 1: Descriptive statistics and univariate analysis between disclosures and the independent variables

(A)	Mean	Median	Std.dev	Pearson correlation (*r*)
Disclosure scores	0.158	0.151	0.072	N/A
Size	8.335	8.318	0.6199	0.439***
Ownership structure	0.718	0.701	0.090	–0.366**
Leverage	0.520	0.444	0.383	0.276*
Assets-in-place	0.410	0.399	0.180	–0.042
(B)	**Big six ($N = 46$)**	**Non Big Six ($N = 21$)**	**Student's *t***	**1-tailed probability**
Mean disclosures scores	0.175	0.122	3.35	0.002
Median	0.167	0.117		
Std. dev	0.074	0.054		
Mann-Whitney z = –2.955, 1-tailed probability 0.003.				
(c)	**Domestic listed ($N = 55$)**	**Foreign listed ($N = 12$)**	**Student's *t***	**1-tailed probability**
Mean disclosures scores	0.148	0.205	–2.82	0.011
Median	0.139	0.185		
Std. dev	0.071	0.061		

Man–Whitney z=–2.695, 1-tailed probability 0.007. one tailed probability
*ρ <0.10; **ρ <0.01; ***ρ <0.001.

on an overseas as well as a domestic stock exchange have a greater propensity to voluntarily disclose information than companies with a single stock market quotation. The Mann-Whitney U test yields a Z statistic of –2.695 ($\rho < 0.05$), which again confirms the Student's t test results. These findings support the conclusions derived from previous disclosure studies (e.g., Meek and Gray, 1989; Choi and Levich, 1990 and Gray et al 1992).

Pearson product-moment correlation coefficients (r) were also computed to determine the correlation between the independent variables. Table 2 reveals statistically significant r statistics between the following independent variables: firm size and leverage (0.304 $\rho < 0.05$); firm size and auditor (0.426 $\rho < 0.001$); and auditor and foreign listing (0.232 $\rho < 0.10$).

The Pearson correlations suggest that the statistical significance of independent variables in the univariate analysis may be overstated. Therefore, a multivariate statistical analysis was also carried out on the data.

Table 2. Correlation among independent variables

Variables	Size	Ownership	Leverage	Asset-in-place	Auditor
Size	1.000				
Ownership	–0.177	1.000			
Leverage	0.304**	–0.213	1.000		
Assets-in-place	0.058	0.011	0.163	1.000	
Auditor	0.426***	–0.194	0.194	–0.057	1.000
Foreign listing	0.149	–0.184	–0.160	–0.153	0.232*

*ρ <0.10; **ρ <0.05; ***ρ <0.001.

Multivariate Test

The following ordinary least square (OLS) regression model was fitted to the data in order to assess the effect of each variable on voluntary disclosure levels:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

Where: Y = voluntary disclosure scores;
X_1 = firm size; X_4 = asset-in-place;
X_2 = ownership structure; X_5 = auditor;
X_3 = leverage; X_6 = foreign listing;
e = error term.

A summary of the regression results is presented in Table 3. The multiple regression model is highly significant ($\rho < 0.001$). The adjusted coefficient of determination (r^2) indicates that 28.6 percent of the variation in the dependent variable is explained by variations in the independent variables.

The coefficients representing firm size, ownership structure and foreign listing status are statistically significant ($\rho < 0.05$, $\rho < 0.10$, and $\rho < 0.10$, respectively), while the coefficients for leverage, assets-in-place and auditor are not statistically significant. Nonetheless, for the three variables that are not statistically significant, the predicted direction of the relation with the dependent variable is in accordance with the *a priori* expectations of agency theory.

To test the data normality assumption of the regression model, a histogram of the distribution of the residuals was plotted. The distribution approximated a normal curve, suggesting that the data conform to the normality assumption. In addition, residuals from the regression model were plotted against the predicted values of disclosure and against each explanatory variable to determine whether the error terms of the model had constant variances. A visual inspection of the distribution of residuals suggested an absence of heteroscedasticity.

Discussion of Results

The empirical evidence based on both univariate and multivariate analysis indicates that firm size, ownership structure and foreign listing status are statistically related to the level of information voluntarily disclosed by Malaysian companies in their annual reports. These findings provide support for the agency theory-based hypotheses 1, 2 and 6 listed in Section 3. This evidence is also consistent with that found in other studies (e.g., McKinnon and Dalimunthe, 1993; Meek and Gray, 1989; Cooke,

Table 3. Regression Results

Variables in the equations

	Intercept (β_0)	Size (β_1)	Ownership structure (β_2)	Leverage (β_3)	Asset-in-place (β_4)	Auditor (β_5)	Listing (β_6)
	−0.010	0.032	−0.178	0.031	−0.018	0.016	0.041
T	−0.07	2.30	−2.02	1.45	−0.41	0.86	1.93
Sig. T	0.942	0.025	0.048	0.154	0.686	0.395	0.058

Adj. $R^2 = 28.6$, $F = 5.41$, $\rho = 0.000$.

1989). It would appear that voluntary disclosure helps to overcome agency costs as the firm grows in size, and shareholdings become more dispersed. Also, companies quoted overseas that are used to meeting a multiplicity of international accounting rules and regulations are likely to disclose more information than other listed firms.

Leverage has been shown to be an important explanatory variable of voluntary disclosure in previous studies (e.g., Bradbury, 1992), but here the results of the multivariate and univariate analyses are contradictory. In the univariate tests shown in Table 1, leverage was found to be marginally significant with disclosure, but the multivariate results shown in Table 3 revealed otherwise. This may be partially due to minor multicollinearity effects among the independent variables. However, the results of the multivariate analysis on the leverage variable are consistent with those of other empirical studies (e.g., Chow and Wong-Boren, 1987; Craswell and Taylor, 1992). In Malaysia, the finding could indicate that alternative mechanisms, such as restrictive covenants in debt agreements, are more prevalent than voluntary information disclosure in controlling the agency costs of debtholders.

The univariate and multivariate tests also produced contradictory results for the auditor variable. The univariate *t* statistic for auditor was statistically significant, whereas the multivariate OLS model revealed otherwise. As with the leverage variable noted above, this may be due to minor multicollinearity effects between the independent variables. However, the finding does suggest that in Malaysia there is some doubt as to whether the Big Six audit firms associate themselves with companies that voluntarily disclose extensive information in order to preserve their reputational capital. Some support for this conclusion is provided by two previous studies: Tan et al., (1990) and Simon et al., (1992) Assets-in-place was not significant in either the univariate or multivariate analyses. This finding supports the results or most prior research (e.g., Chow and Wong-Boren, 1987).

7. Conclusion

This study sought to investigate the relationship between six firm-specific characteristics and the general level of voluntary disclosure in the annual reports of a randomly selected sample of 67 non-financial sector companies listed on the KLSE. The extent of voluntary disclosure is measured cross-sectionally for 1991 using a general disclosure index consisting of 78 accounting items. The univariate and multivariate analyses indicate that firm size, ownership structure, and foreign listing status are significantly related to voluntary disclosure levels. Firm size is the most strongly significant variable associated with the extent of voluntary disclosure. Therefore, the main conclusion of this study is that voluntary disclosure systematically varies depending upon firm size. A possible policy implication of this finding may be that policymakers should focus more closely on the disclosure needs of users of smaller firms' annual reports. However, in so doing, policymakers would need to consider the costs, as well as the benefits,[11] associated with increased disclosure by smaller companies.

We consider that there is scope for further research in the field of corporate disclosure in emerging capital markets. For instance, research could extend this study over a longer period of time or, alternatively, involve comparative studies

with other ASEAN countries. Such studies will help to validate the conclusions of this study and overcome the possibility that a small, single-period data set may bias results. Nevertheless, despite the limitations of single-period data and a relatively small sample, we consider that the results of this study provide a useful insight into the disclosure practices of Malaysian companies and provided a starting point for future research.

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Notes

1. Emerging capital markets are defined as those stock market belongings to "developing" countries with low to middle income economies (International Finance Corporation, 1990).
2. ASEAN is an economic alliance of six South East Asian nations: Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand.
3. The International Financial Corporation (IFC), an affiliate of the World Bank, has been actively involved in the development of the emerging capital markets. It provides technical assistance in developing these markets and maintains a comprehensive database (the Emerging Financial Markets Databse) of the 20 most significant emerging capital markets.
4. The Malaysian Securities Commission replaces the Capital Issues Committee (CIC) in 1992. The Securities Commission was established to deliver more integrated development and professionalism and to increase efficiency by bringing under one roof the previously overlapping regulatory agencies, such as the CIC, the Panel on Take-overs and Mergers, and the Foreign Investment Committees.
5. Agency costs relate to the costs incurred in maintaining the contractual relationship between principals and agents in equilibrium (or at "Pareto-optimality"). These costs include both principals' *Monitoring expenditure* and agents' *bonding expenditure*. Financial reporting can help principals to monitor agents' activities. It can also be a bonding function through which agents can signal their compliance with principals' objectives.
6. The Big Six firms are defined as Arthur Andersen, Coopers and Lybrand, Deloitte Touche Tohmatsu, Ernst and Young, KPMG Peat Marwick, and Price Waterhouse.
7. For example, firms that operate principally or solely in Malaysia were not penalized for failing to disclose items, such as geographical segmental information, which are not relevant to their business activities.
8. A copy of the rating worksheet can be obtained from the first-named author upon request.
9. Market capitilization is used as the proxy for firm size in many recent disclosure studies in accounting literature (e.g., Saduagaran and Biddle, 1992). Moreover, natural logarithmic transformation were used to reduce skewness in the data set.
10. Spearman rank correlations were also computed. The conclusions were unchanged.
11. For example, some recent literature suggests, that the benefits of information disclosure do not always justify its cost. Indeed, some researchers suggest that increased mandatory reporting rules may result in some firms spending more resources on disclosure than that which is socially optimal (e.g., Fishman and Hagerty, 1989).

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Appendix 1: Disclosure Index*

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*Adapted from Gray et al (1992)

Appendix 2: Disclosure Scores

Name of listed companies	Disclosure Scores[a] (%)
Telekom Malaysia Bhd.	35
MMC Bhd.[b]	35
Boustead Holdings Bhd.	34
Chemical Company of Malaysia Bhd.	32
Golden Hope[b]	28
EON Bhd.	26
Kulim Malaysian Bhd.	26
Consolidated Plantations Bhd.[b]	24
George Kent Bhd	24
United Plantations Bhd.[b]	23
Timah Langat Bhd.	22
Guiness Anchor Bhd.	22
Bandar Raya	22
New Straits Times Press	21
Tradewinds Bhd.	21
Sime Darby Bhd.[b]	21
Dmib Bhd.	19
Gadek Bhd.[b]	21
Austral Enterprises Bhd.	19
Uniphonex Corporation Bhd.	18
Island & Penninsula Bhd.	18
Guthrie Ropel Bhd.	18
Highland and Lowlands Bhd.[b]	18
Bata Malaysia Bhd.	18
Kuala Lumpur Kepong Bhd.[b]	18
Yeo Hiap Seng Bhd.	17
Cement Industries Bhd.	17
Palmco Holdings Bhd.	17
Mangnum Corporation Bhd.	16
Riverview Rubber Estates Bhd.[b]	16
Tronoh Mines Bhd.	16

continued...

Appendix 2 continued

Name of listed companies	Disclosure Scores[a] (%)
Muda Holdings Bhd.	16
Uniphone Telecommunications Bhd.	15
Taiping Consolidated Bhd.	15
Long Haut Timber Industries Bhd. (2)	15
Rock Chemical Bhd.	15
Malakoff Bhd.[b]	15
Leisure Management Bhd.	14
Keck Seng Bhd.	14
Selangor Coconuts Bhd.	14
Fima Metal Box Bhd.	14
Kumpuland Belton (2)	14
Petaling Tin[b]	14
Pelangi Bhd.	13
Austral Amalgamated Tin Bhd.	13
Setron (Malaysia) Bhd.	12
Batu kawan Bhd.	12
Promet Bhd.	12
Malaysian Oxygen Bhd.	11
Sungei Bagan Rubber Company Bhd.	11
Nylex Bhd.	10
Tasek Cement Bhd.	10
Corrugated Carton Products Bhd.	10
Kamunting Corporation Bhd.	10
Mercury Industries. (2)	10
IJM Corporation Bhd.	10
Bukit Katil Rubber Estates Bhd.	8
Amalgamated Industrial Steel Bhd.	8
Nam Fatt Bhd.	8
Matsushita Electric Company Bhd.	8
Binaan Setegap Bhd.	8
Public Packages Holdings Bhd.(2)	7
Sin Heng Chan Bhd.	7
Golden Frontier Bhd. (2)	5
Union Paper Holdings Bhd.(2)	4
Menang Corporation Bhd.	4
Larut Tin Fields Bhd.	4

[a]Disclosure scores have been rounded to two decimal points, while actual scores were used in statistical analysis.
[b]Also listed on London Stock Exchange.

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Unifying Accounting in the People's Republic of China

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Key words: Accounting standards; Conceptual framework; People's Republic of China

Abstract: *In issuing it first unifying accounting standard, the People's Republic of China has taken a significant step towards rationalizing its internal system of enterprise accounting by establishing a single set of accounting principles in general conformity with international accounting standards. This article begins by correcting a fundamental misconception concerning the existing system of enterprise accounting. It then examines the motivations and processes leading to the promulgation of the standard. The conceptual content of standard is examined to ascertain the conceptual framework implicit in its formulation. Substantive effects likely to arise from its implementation are also discussed.*

Since its official adoption of "Open Door" policies in 1978, the People's Republic of China has needed to confront a number of fundamental issues regarding its system of economic accounting. Permitting the establishment of joint ventures involving foreign capital required, for example, the official recognition of private ownership rights and the implementation of economic accounting standards compatible with this form of ownership. Concurrently, internal structural changes – increased emphasis on managerial efficiency and the deregulation of a wide range range of commodity prices, for example – have also placed new demands on the nation's system of economic accounting.

Generally, the information demands of foreign investors have been met by the adoption of externally developed accounting principles and methods in general conformance with international accounting standards. Unsatisfactory experiences associated with applying the Soviet accounting model during the 1950s, however, created an awareness that for internal purposes, adoption without adaptation may be counterproductive (Yang, 1992, pp. 4–5). Consequently, a more arduous path has been taken – to develop alternatives internally that address the changing domestic

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demand for financial information. A complex and difficult task under the best of circumstances, it is the more so given an existing system of national economic accounting rife with diversity. Further, the task falls to a fledgling profession that had seen its ranks decimated during the "Great Proletarian Cultural Revolution."

An effort to research and draft that nation's first unifying accounting standard was undertaken under the direction of the Ministry of Finance in 1988. The process yielded an opinion draft in 1989 and an exposure draft early in 1991. By December 1992 the standard was approved and issued to become effective July 1, 1993. Unfortunately, these documents have not been given wide circulation outside the People's Republic of China, and the text of the standard has yet to be translated and distributed to electronic data retrieval services. Further, the unofficial status of both the opinion and exposure drafts makes it unlikely that official translations will be made available.

The standard is more than the mere promulgation of a narrow set of accounting rules. While it will certainly affect the more mechanistic aspects of accounting practice, its import is far more fundamental and wide reaching. Internally, it is viewed as indispensable to continued economic development despite the immediate economic sacrifices its implementation portends.

This article pursues three objectives. The first is to examine critically existing descriptions of the current accounting system and to extend these descriptions in an effort to provide a more accurate portrayal of the state of accounting within the People's Republic of China. This re-examination is necessary, first, to provide a perspective from which the nature and extent of the reforms engendered in the standard may be judged, and, second, to resolve an apparent incongruity between the perceived need to unify accounting standards – as expressed in the standard – and the purported pre-existence of a national "Uniform Accounting System."

Having identified the systemic deficiencies the standard seeks to address, the second objective of this article is to examine the process by which the Ministry of Finance sought to formulate alternatives for redressing these deficiencies. Here, parallels are drawn to the US standard-setting process followed by the Financial Accounting Standards Board (FASB).

Third, a textual analysis of both the standard and its predecessor Exposure Draft is undertaken. This analysis stays consideration of purely application-oriented content in deference to the analysis of concept-oriented issues raised both explicitly and implicitly. Consistent with this conceptual orientation, an attempt is both to identify those elements that appear to form an implicit conceptual framework, and to infer, to the extent possible, interrelationships among these elements.

Uniform Versus Unified Accounting

In undertaking the drafting of the unifying standard, the Ministry of Finance noted that the current state of accounting reflects a myriad of "detailed accounting measurement standards for different industries and different types of ownerships" that "include many similar accounting requirements, but no single general standard" (Ministry of Finance, 1991, Appendix III). As a consequence of the nation's

commencement of economic reform, recognition has also been given to the fact that "accounting information provided by different industries and types of ownership lacks comparability" and is, therefore, an impediment to continued economic development (Ministry of Finance, 1991, Appendix III).

In contrast to this official view, prior research has emphasized uniformity as a primary quality of the accounting system. From this perspective, the issuance of the standard lacks serious import, representing, perhaps, a mere codification of minor adjustments to procedural rules. Thus, there is a fundamental incongruity between the official perception of accounting reality within the People's Republic of China, and the representations of this reality made to Western researchers. This section undertakes to resolve this incongruity as a necessary first step toward recognizing the fundamental significance of the standard.

Descriptions in the Literature

Winkle, et al. (1992) provide a summary description that exemplifies the lack of correspondence between reality and description. Relying upon Zhou (1988), they state without further elaboration:

> The Chinese accounting system has, of course, reflected the information needs of a planned economy. Chinese state enterprises follow a *uniform* accounting system with a standardized chart of accounts, allowing for consistency of accounting information which facilitates central economic planning. Under the Chinese Accounting Law, enterprises may modify the uniform system when necessary to meet individual needs; however, the modifications must be reported to the Ministry of Finance. [emphasis added]

Although some potential for diversity – through customization to meet specific needs – is implicitly recognized, this description neither identifies nor alludes to fundamental differences in the accounting systems employed by enterprises operating in different industries or under different forms of ownership. Indeed, the accounting system of the People's Republic of China is portrayed as universally standardized, rigidly controlled, and basically intolerant of deviation.

Zhou (1988) provides a substantially more comprehensive description, tracing the history of the accounting system to the establishment of the new government in 1949. Noting that revisions to the system were undertaken in 1981, he clarifies the distinction among entities subject to accounting regulations, and, although not presented as such, identifies potential sources of diversity:

> ... state enterprises, non-business units, collective enterprises, governmental bureaux and agencies etc. should all follow the *uniform* accounting system. However, because different units face different business environments in different industrial and commercial sectors, the Accounting Law has allowed the functional departments of the State Council and the financial bureaux and agencies of local government to formulate certain supplementary regulations in order to modify or simplify the uniform accounting system, so long as these actions do not violate the fundamental principles of the Accounting Law. (Zhou, 1988, p. 212) [emphasis added]

Here, diversity across economic segments is more clearly admitted to the description, but its import to the accounting system as a whole is minimized.

As a contributor to what is arguably the most comprehensive analysis of accounting and auditing in China, Lou (1987) also makes reference to the existence of a uniform accounting system:

... *Uniform accounting systems* are enforced as a result of centralized control exercised over accounting affairs nationwide with the purpose of gathering consistent, comparable, and uniformly measured accounting data, which are closely coordinated with planning, financial, and statistical measurements. [emphasis added]

This reference to *uniform accounting systems* rather than a single uniform accounting system provides the first hint of fundamental systemic diversity. Lou further elaborates upon the "outstanding features of the uniform accounting systems," which includes, in part,

Separate uniform accounting systems for state industrial, agricultural, commercial enterprises, and organizations that fall within the sphere of budgetary unit accounting ... (Lou, 1987)

Although it is recognized that the accounting system encompasses not one, but a multiplicity of systems based upon the economic activity of the entity, the concept of systemic uniformity is maintained.

Lexicographic Issues

Uniformity primarily imputes a lack of variation or diversity to the object being described (*Webster's*, 1987). Lou's enumeration of multiple systems would seem to argue against the attribution of this quality to the present accounting system unless, of course, each system is fundamentally identical to all others.

In contrast, Winkle et al.'s (1992) reference to the use of a standardized chart of accounts would seem to support a less restrictive meaning – a state of "complete conformity to a rule or pattern or by similarity in salient detail or practice" (*Webster's*, 1987). However, their empirical evidence on accounting curricula in the People's Republic of China is contradictory. No less than eight industry-specific course offerings in agricultural, bank, budgetary, commercial, construction, enterprise, industrial, and joint-venture accounting are listed (Winkle, et al., 1992, p. 185). The existence of such a plethora of course work is inexplicable under either definition of a uniform system.

Lou (1987) does, however, allude to a fundamentally different interpretation of the term "uniform" as it has been applied in describing the national accounting system:

Within the Ministry of Finance the Department of Administration of Accounting Affairs is charged with the responsibility of directing and administering accounting affairs nationwide. As unusual as it may seem to accounting professionals and academicians in the West, the existence of such a department under the Ministry of Finance is an outcome of the school of thought that finance of state enterprises in a socialist country is one aspect of public finance, and that accounting is a means to facilitate efficient functioning of business finance in a narrower sense, and thus contributes to sound public finance in the broader sense. *The influence of this notion; which has prevailed for thirty years, can be traced in accounting practices, especially in uniform accounting systems.* [emphasis added]

The notion referred to is the policy of "Unified Leadership, Divided Management." Its origins lie with Mao Zedong, who originally expressed it as the "Concentration of the Great Authority, and Dispersion of the Small Authority" (Schurmann, 1968, p. 257). Explicitly incorporated into the standard, it is an important element of the Chinese socialist ideology. Schurmann (1968) notes that historically,

... this approach held that once the major decisions were made at the top of an organizational unit, the authority to carry them out should be spread far afield and far down ... [I]f the Party committee of an enterprise made decisions on basic production targets, the production units were to devise their own

operational means for carrying them out. There was to be little supervision and control, and only a final accounting when the production period ended. (p. 293)

Herein lies the fundamental source of the diversity which the unifying accounting standard seeks to redress. Viewed individually, each of the "uniform" accounting systems reflects its own evolutionary history, emphasizing industry-specific characteristics. Viewed collectively, Yang describes the current state of accounting as a "dazzling" collection of systems incorporating an unnecessarily wide set of divergent principles and methods:

...Industrial enterprises use debit and credit bookkeeping, some commercial enterprises use plus–minus bookkeeping and administrative units use receipt and payment bookkeeping. ... In industrial enterprises, a sale is recognized when cash is received. In commercial enterprises, revenue is recognized when goods are delivered ... (Yang, 1992, p. 4)

While the national system of accounting may give an outward appearance of vertical unity, it is clearly divergent when viewed horizontally.

The qualitative characteristic of unity attributed to the national accounting system reflects the reality of centralized management of accounting affairs under the authority of the Ministry of Finance (Chen and Mu, 1992; Commercial Department, 1957). A sense of "oneness" within the system stems from this centralization of authority and not, as one might be easily led to believe, from the existence of facsimile accounting systems.

Disparities between extant descriptions of the national accounting system and the actual state of affairs cannot be ascribed to purely semantic disagreement. Reference to documents in the original Chinese fails to reveal any use of the characters (huà yī) that can be used to describe the accounting system as "uniform." What is found is consistent use of the characters (tŏng yī) that translate directly into English as "unified." Further evidence of translation inaccuracies is provided by the Computer-Assisted Legal Research Center of Peking University. Their translation of the Accounting Law reads, in part: "[Article 6] The national *unified accounting system* is formulated by the financial department of the State Council in line with this law" [emphasis added]. Here, too, use of the term "unified" is consistent, being found also in Articles 14 and 19 of the Law; nowhere in the translation does the term "uniform" appear.

While the difference in terminology might well be overlooked in other circumstances, here it leads to fundamentally different perceptions of the accounting system. Prior to the issuance of this standard, unification had been achieved along a single dimension – that of centralized administrative authority resting with the Ministry of Finance. Implementation of the standard seeks to achieve unification along a second dimension by establishing a common set of principles to guide accounting throughout all segments of the national economy. Without clarity on this point, the significance of recent developments is diminished, and the substantive changes engendered in the standard obscured.

Developments Subsequent to 1978

The diversity that arose as a natural consequence of accounting's evolution under a policy of "unified leadership, divided management" has been further exacerbated by

economic reforms undertaken since 1978. Policies were formulated to accelerate realization of the nation's potential for economic development, enhance the nation's ability to earn foreign exchange and acquire technology, primarily through the authorization of joint ventures using Chinese and foreign investment (Hongkong Bank, 1981; Standing Committee, 1979). Domestically, policies have begun to reflect an increasing emphasis on managerial efficiency and enterprise independence. Concurrently, measures have been adopted to allow the deregulation of certain commodity prices in order to instill a measure of market discipline over enterprise operations (Hongkong Bank, 1981).

Vertical cohesion has been broken. First the introduction of foreign invested joint ventures required a separate set of accounting standards consistent with the concept of private enterprise (Ministry of Finance, 1985). Shortly thereafter, similar standards were needed to regulate the financial reporting of "experimental stock enterprises," formerly wholly state-owned enterprises that were permitted to issue stock to the public (Ministry of Finance and State Commisssion, 1992). Parallel systems of accounting were thus created, differentiated not by specific industry characteristics, but by the form of ownership. Second, state-owned enterprises availing themselves of the opportunity to establish operating units outside the borders of the People's Republic of China would be required to generate financial information in conformity with the accounting principles and practices required by the country in which they were located. Differences in accounting standards required operating units to establish separate accounting systems which were often incompatible with domestic reporting requirements. This created diversity within the enterprise accounting system itself, compounding the difficulty of preparing consolidated statements (Wen, 1992). Third, enterprise independence permitted diversification by both internal development and cross-industry mergers (National People's Congress, 1988). Preparation of consolidated financial statements thus became an even more serious concern as no single form of enterprise accounting would be appropriate in all cases (Wen, 1992).

The lack of fundamental cohesion within the unified accounting system has been officially recognized as a potentially serious constraint on continued economic development (Ministry of Finance, 1991). A description of the efforts, commenced in 1988, to redress these deficiencies is provided in the following section.

The Standard-Setting Process

Whether fortuitously or by design, the commencement of formal efforts in 1988 to draft a unifying standard was preceded by two official acts that were to make a valuable contribution to the endeavour. First, the *Accountancy Law of the People's Republic of China*, enacted January 1985, codified the rights and responsibilities of accountants, and established legal protection against retaliatory actions which might be taken against them in the course of exercising their duties. This was critically important in that it resolutely lifted accountancy above the decade of denigration it suffered during the Cultural Revolution. Second, a decisive step to institutionalize accountancy as an independent profession was taken in October, 1986 with the promulgation of *Regulations of the People's Republic of China on Certified Public*

Accountants. Together, these acts officially recognized the existence of an independent body of expertise that could, and would, be engaged in the process of unifying the nation's accounting system.

Procedurally, the sequence of events leading to the issuance of the unifying standard bears strong resemblance to that followed by the FASB. To initiate the process, the Ministry of Finance directed its Department of Accounting Affairs Management to form an Accountancy Standard Task Group and begin work on researching and drafting the standard in October 1988. By the following March, two documents were published and circulated in *Accounting Reform Reference Material* "to extensively solicit opinions from the accounting profession" (Ministry of Finance, 1991).

With this equivalent to a discussion memorandum in hand, the task force began the process of "inquiry research," holding consultative "discussion symposia" in key locations throughout the People's Republic of China to elicit the "opinions of experts, professors and accounting practitioners" (Ministry of Finance, 1991). Through September 1990, the task force engaged in an iterative process of drafting, opinion solicitation and revision that produced the equivalent of a second discussion memorandum, *People's Republic of China Accounting Standard (Draft) Outline (Opinion Draft)*. This opinion draft served as the focus of discussion at two conferences drawing attendance from across the country. Final revisions to the draft outline produced an exposure draft document: *Enterprise Accounting Standard No. 1 – Basic Standard (Draft)* (Ministry of Finance, 1991).

The process itself embodies a degree of openness and broad-based participation in marked contrast to the more familiar centrally issued edicts of the past. Similarly, the process is distinguished by the importance attached to the discussion of abstract concepts in addition to procedural questions.

The Exposure Draft recognized the need to establish a unifying standard that would be "adaptive to a planned economy, socialist ideas, and different kinds of market structures..." At a still higher level of abstraction, recognition was given to the need for a "guiding ideology" to serve as the foundation for accounting standards development. As set forth in the Draft, this ideology embodies the concepts of co-existence among different economic market structures; merger and adaptation of accounting theories from various sources; unified leadership – divided management; and interdependence among the accounting, financial and tax systems. All accounting standards are to reflect this ideology.

Also given recognition was the need to identify the common principles which should underlie all accounting standards. Twelve such principles were put forth for discussion:

(1) *Legality* requires that all accounting standards comply with applicable laws.
(2) *Truthfulness (Authenticity)* speaks to the issue of reliability explicitly and may also include elements of representational faithfulness and neutrality.
(3) *Unity and Comparability* requires accounting standards to be in conformity with the unifying standard.
(4) *Interrelationship* recognizes the need for financial information to satisfy users' needs. It appears to presume the ability of financial information to affect user perceptions and decisions.

(5) *Consistency* in the application of accounting principles and methods.

(6) *Timeliness* requires the prompt recording of transactions and events, and, therefore, addresses most directly the issue of completeness.

(7) *Understandability* in terms of information clarity and ease of use.

(8) *Matching* in terms of the period in which recognition occurs.

(9) *Recognition of Rights and Obligations* as the basis for requiring accrual as opposed to cash basis accounting.

(10) *Actual (Historical) Cost Basis* as the basis for the valuation of assets and liabilities.

(11) *Distinction Between Capital and Revenue Expenditures* provides additional rationale for the requirement of accrual accounting.

(12) *Economic Significance (Materiality)* refers to the need for completeness, and the required disclosure all events of significance to the users of the financial information (Ministry of Finance, 1991).

Also considered was the principle of conservatism. Some disagreement obviously existed on this point, with the Ministry of Finance not favoring its inclusion in the general principles:

> Accounting professionals have different views on whether the principle of conservatism should be included in General Principles. We think that, in light of China's specific circumstances, general application of this principle is not advisable (Ministry of Finance, 1991, Appendix III).

The principle was not wholly abandoned, however. Rather, its applicability would be specifically considered for select circumstances.

The set of 12 principles was considered to be "the product of combining China's political and economic environment with the accounting standards of other countries" (Ministry of Finance, 1991, Appendix III), i.e., a result of adoption *with* adaptation. Though not further developed as such, this body of principles appears to contain the elements of an emerging conceptual framework.

The Standard

With one exception, the final text of the standard retained the general principles enumerated in the exposure draft. Legality was eliminated as a fundamental principle, and conservatism reappeared to assume its vacant position. Its effect is likely to be limited, as the acceptability of the allowance method for doubtful accounts – which previously had been expressly prohibited – is the only application of conservatism cited in the standard (Ministry of Finance, 1992, Article 27).

Neither the exposure draft nor the final standard attempted to structure these principles into a formal conceptual framework. Both also lack explicit information concerning the relative importance attached to the individual general principles. It is still possible, however, to draw some inferences from the surrounding text.

In part, the purpose of the standard, as expressed in the exposure draft was to:

> ... satisfy the needs of managing China's socialist planned commodity economy; strengthen economic accounting; improve the quality of accounting measurement; guarantee the reliability of accounting information ... (Ministry of Finance, 1992, Chapter 1, Article 1)

In contrast to the terminology found in US accounting standards, use of the term *guarantee* makes a strong statement concerning the importance of reliability to the overall quality of accounting information. This is further emphasized in the Exposure Draft's (Ministry of Finance, 1991) discussion of truthfulness (authenticity):

> To accurately reflect the financial situation and the results of operations, accounting records must report transactions or events that have actually occurred and can be verified by reference to legal evidence. As a result, the content of the statement is authentic; the figures are accurate; transactions are complete; and the information is reliable. (Chapter 2, Article 4)

It appears that an unequivocal conclusion had been reached; that reliability derives from authenticity which, in turn, derives from completeness and verifiability.

In the final text of the standard, the statement of purpose is considerably more terse. Its purpose is to:

> ... satisfy the needs of developing China's socialist planned market economy; unify accounting standards; guarantee the quality of accounting information ... (Ministry of Finance, 1991, Article 1)

Here, the purpose has been broadened beyond just guaranteeing *reliability* of accounting information to guaranteeing the *quality* of accounting information. Quality, as the term is used here, appears to encompass (unenumerated) characteristics beyond reliability, but without necessarily diluting its central importance.

Consistent with the purpose of the standard, comparability is afforded explicit attention as an important qualitative characteristic of accounting information. Appendix III of the exposure draft states: "[A] lack of comparability is disadvantageous to the government in carrying out macroeconomic policy and control." Further, the draft also slates: "Accounting should conform to national unified requirements ... in order to achieve comparability" (Ministry of Finance, 1991, Chapter 2, Article 3). This was carried forward into the final draft as well.

Apart from these explicit references, the modifiers of comparability are also relatively well developed. Consistency is mentioned explicitly. Representational faithfulness is implied in truthfulness (authenticity). Neutrality is required under the Accountancy Law.

Timeliness, which appears as a modifier of relevance in the FASB's Conceptual Framework, also appears in the unifying standard. In the latter case, however, its significance is more procedural than conceptual. The exposure draft states: "Accounting events or transactions should be treated promptly in the appropriate period; they should not be postponed or accelerated" (Ministry of Finance, 1991). Consequently, it appears to speak more directly to the completeness, and therefore reliability, of accounting information rather than to the concept of relevance, per se.

In general, qualitative characteristics relating to relevance are afforded far less explicit attention in either the exposure draft or the unifying standard. This lack of development may result from a *presumption* of relevance in the information generated in accordance with the standard. Interrelationship is expressed in terms of the uses to which financial information will be put:

> Accounting information should satisfy the needs of the nation to manage macroeconomic activity, satisfy the needs of various parties to keep abreast of an enterprise's financial position and results of operation, and satisfy the need to strengthen enterprise internal operating management. (Ministry of Finance, 1991).

Clearly, if the information provided under the unifying standard fulfills these needs, it must also meet the test of relevance.

Economic significance (materiality) appears to be closely tied with both relevance and reliability. Exposure Draft Article 12 states:

Accounting measurement should reflect wholly the enterprise's financial position and results of operation. When decisions have been made that can importantly affect enterprise operations, they should be separately measured and reported, and intensively disclosed in the accounting statements. Significant subsequent events after the balance sheet date should be disclosed in accounting report (statements).

On one hand, this general principle appears to speak to the issue of completeness and, therefore, reliability. On another, it speaks to the issue of relevance insofar as it demands the recognition, measurement, and disclosure of all events of economic significance to the enterprise. By implication, it appears that the two concepts of relevance and reliability are viewed as being fundamentally intertwined: completeness demands all significant information be disclosed; economic significance, in turn, demands disclosure.

In this regard, there is an elemental difference between the application of the concept in US usage and that implied in the unifying standard. US Generally Accepted Accounting Principles apply the test of materiality (economic significance) as a threshold for recognition – accounting treatment prescribed by a standard need not be applied to immaterial items. In contrast, under the unifying standard, failing the test of economic significance (materiality) does not permit accounting treatment at variance with accounting standards. Rather, the test of economic significance is applied as a threshold for *additional separate disclosure.*

Substantive Effects of the Standard

Implementation of the standard in mid-1993 has had a number of immediate effects upon the nation's system of economic accounting. First, it brought "China more into line with international practices, allowing foreign investors to have a clearer idea of the health of their business partners" (Chan,1992). Second, all enterprises, regardless of the industry in which they operate or their form of ownership, will need to ensure that their internal accounting systems are capable of producing financial information in compliance with the unifying standard. In some cases – primarily within state-owned enterprises – the need to apply specifically mandated accounting methods may require extensive modifications to existing systems.

This internal restructuring has, no doubt, created additional demands for accounting services. Citing the Ministry of Finance, Chan (1992) notes that these demands will fall upon "only 13 000 certified public accountants, all of whom would have to go through extensive retraining." In the short term, some of this demand may be met through joint ventures with foreign Certified Public Accounting firms. To meet the demand for accounting services domestically, a dedicated effort will be required to educate and train the estimated 100 000 accountants that will be needed by the year 2000 (Chan, 1992). In the meantime, interaction between domestic and foreign accountants is certain to exert influence on the direction of accounting development.

The unifying standard may serve as a domestic stabilizing force as well. Prior to its issuance of the unifying standard, ventures involving foreign invested capital were governed by a body of laws and regulations that existed separately from those

governing state enterprises. Issuance of the standard will, to some extent bring foreign invested and state-owned enterprises under a single regulatory umbrella. To the extent this occurs, changes in the regulatory structure will need to be even more carefully deliberated as their effects are likely to be felt throughout the micro-economic environment.

Ultimately, some of the most important effects of the unifying standard will be felt within the centralized planning process. The comparability achieved by placing the nation's commercial, industrial, transportation, agricultural and financial sectors under a single set of fundamental accounting principles should exert a positive influence on the rational allocation of resources. Similarly, the concerns of both foreign investors and domestic economists who "have long complained that current accounting methods were highly unreliable" (Schlesinger, 1992) will, at least in part, be addressed. Improved comparability and reliability in the basic accounting information should also translate to improvements in the quality of the macro-level reporting of income, expenditure, and national accumulation.

Concluding Observations

In issuing the nation's first unifying accounting standard, the People's Republic of China has taken a significant step along the path of continued globalization of its economy. As economic activity becomes increasingly complex, however, developing a rational method of choice among still more accounting alternatives will likely become a matter of some urgency.

Attempts to identify the criteria for choice and formalize them into a structured conceptual framework will almost certainly be undertaken. Here, the conceptual frameworks advanced by the FASB and the International Accounting Standards Committee may provide guidance, and considered analysis by Western accounting professionals may prove valuable. Differences in perception as to the relationship among the elements of this conceptual framework, already evident in both the exposure draft and final standard, suggest however, that the adaptation of existing frameworks to the unique Chinese experience may yield a quite different product.

Opportunities exist for Western accounting academicians and practitioners to make positive contributions in matters of both theory development and practical choice. Empirical evidence gathered over the last several decades may find new applications in China as a basis for policy decisions involving accounting choice. However, the lack of emphasis on empirical research in the contemporary Chinese accounting literature suggests that normative discourse, at least in the near term, will be a major contributor to the development of accounting thought.

In capitalizing on these opportunities, a cautious approach is advisable. Translational precision is, of course, an absolute necessity. However, precision alone will not obviate the need to assure the preservation of semantic content.

Political ideology is pervasive throughout the Chinese social structure, including language. The influence of this ideology adds a layer of complexity that is potentially far more difficult to overcome.

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Book Reviews

Quality and Control: An Accounting Perspective *by Ahmed Riahi-Belkaoui, Westport, CT: Quorum Books, 1993, 219 pp, $50.00 US*

According to the preface, the stated purpose of this book is to describe the processes of planning and controlling for quality and to provide a guide for implementation. The book contains six chapters. In the first chapter, the concept of quality is explained using principles from well-known experts on quality, such as Deming, Juran, Taguchi, and Crosby. However, the chapter is written at a rather cursory level and does not include some important quality issues. For example, there is no mention of ISO 9000 or the Malcolm Baldridge National Quality Award in Chapter 1.

The second chapter focuses on accounting for quality costs, which begins with traditional accounting for the lack of quality including scrap, waste, defective units, and spoilage. Chapter 2 also includes a discussion of inventory and production control systems and measuring and reporting quality costs such as prevention costs, appraisal costs, internal failure costs, and external failure costs. Performance measurement and the use of nonfinancial measures are also addressed in Chapter 2.

Chapter 3 deals with the traditional control of direct costs, including the price and usage variances for direct materials and the rate and efficiency variances for direct labor. Chapter 4 focuses on control of overhead cost variances. This chapter presents an example using various overhead variance models. The appendix to Chapter 4 includes a 1986 article from the *Journal of Accounting Education* which explains how the analysis of overhead variances can differ among cost-accounting textbooks.

Chapter 5 focuses on control of mix and yield factors, including the sales quantity, sales mix, market size, and market share variances. Chapter 5 also includes a discussion on the production mix and yield variances with a partial linear substitution model and a fixed proportion substitution model. The appendix to Chapter 5 includes a 1988 article from *Issues in Accounting Education* dealing with direct material mix and yield variances under three production functions: partial linear substitution, fixed proportion production function, and a nonlinear production function.

Chapter 6, entitled "Quantitative Approaches to Control and Quality," focuses on the decomposition of variances. Chapter 6 attempts to elaborate on the various cost-variance-investigation models proposed in the literature and in practice, which include traditional solutions with emphasis on materiality significance, the statistical solutions with emphasis on statistical significance, the classical statistical solutions with emphasis on control chart, and decision theory solutions with emphasis on Bayesian

techniques. The appendix of Chapter 6 includes a 1975 article from the *Journal of Accounting Research* which deals with the significance and investigation of cost variances.

In summary, this book addresses the important issue of planning and control for quality; the author has tried to compile and integrate the material effectively. The author believes this book will be useful to researchers in the management accounting area and students from typical undergraduate or graduate courses in management accounting. However, there is nothing particularly new in this book. Most of the book is either direct quotations, adapted materials, or reprints of articles. The book may be useful as a supplementary book for students or practitioners who seek a broad overview of the area of quality and control.

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North Holland Company Financial Reporting: A Historical and Comparative Study of the Dutch Regulatory Process *by Stephen A. Zeff, F. van der Wel and K. Camfferman, Elsevier Science Publishers, Amsterdam, 1992, 450pp, US $85.00/Dfl 190.00. ISBN 0-444-89525-6*

The work by Professor Stephen A. Zeff, Frans van der Wel and Kees Camfferman offers valid support for further research on the regulatory process of financial reporting in the Netherlands. The reliability of this work is remarkable because it is based on interviews with auditors, company executives, representatives of trade union federations, lawyers and judges, academics, staff members of the Nederlands Instituut van Registeraccountants (NIVRA) and the Federation of Dutch Industries, financial journalists, members of the Dutch Financial community, functionaries for the justice minister and members of Parliament.

The major goal of this work is to provide a sound record of the historical development of efforts to improve company financial reporting in the Netherlands in simple prose. The book offers a full and concise description, especially unique, considering the numerous events included of the development of financial reporting and the regulatory process. The work is organized in eight chapters. Three themes are cited: the strength of economic and social background; the historical development of financial reporting (which was slow until the Act on Annual Accounts was passed in 1971); and the decisive role of the Dutch accounting profession since the 1860s.

Economic and Social Background

The first and seventh chapters of the book introduce the reader to the economic, academic and legal backgrounds of accounting reports in the Netherlands. They

focus on the narrowness of the markets and the consequent need to export goods. Not until the industrialization of the twentieth century did the importance of trade navigation grow.

The Amsterdam Stock Exchange, the only stock market in the Netherlands, originated in 1602 when the East India Company offered public shares. Some laws safeguarded the investor, but the Stock Exchange has shown less interest in the financial reporting practices of listed companies than it has in the promptness of communications by companies with the financial community. The banks act as a go-between for the Amsterdam Stock Exchange and the companies (approximately 5 percent) with listed shares in the Netherlands.

Auditing and Private initiatives have had a great impact on the financial reporting improvements in the Netherlands, especially since the 1970s. The Netherlands Institut van Accountants (NIVA) and Vereningig van Academisch Gevormde Accountants (VAGA) began to collaborate in 1927 and merged in 1967 to form the NIVRA.

The increasing importance of auditing in the Netherlands results in some degree from the absence of a legal framework regulating the corporate annual report in 1970. Parliament required an audit for every limited company in 1974. The Limperg Institute was established in order to encourage accounting and auditing research projects. The Netherlands financial press also informs and stimulates interest in better financial reporting.

In the Netherlands, the small influence that tax rules have on financial reporting for corporations is one of the most important aspects attracting international attention. In fact, medium-sized companies adopt tax rules to avoid preparing two annual reports. No reserves are acceptable if they did not comprise a faithful financial picture. An important imperative following the Second World War was the large need for funds by enterprises trying to expand their businesses.

Of particular importance in financial reporting was the development of workers gaining a voice in national affairs when equal rights were extended to the workplace. The 1960s were marked by increased use of current cost accounting, the unacceptability of secret and undisclosed reserves, and the growing importance of information for all stock holders, not just for the shareholders. The strategic function of the capital market in the national economy bacame clear, making a legal regulation necessary.

The need for specification of the operating results and the great significance of a "clear picture" of the course of affairs of the limited company brought improvements, as did the exclusivity of the Enterprise chamber, rather than a Securities and Exchange Commission as an organ of the judiciary with "exclusive jurisdiction over companies' financial reporting."

Improvements since 1971

Since the Act on Annual Accounts became effective in 1971, the Justice Minister has suggested the creation of a program to provide public advice on company financial reporting in which the auditing profession would play a leading role as well as businesses and researchers. This suggestion led to the formation of tripartite study group (TO = Tripartite Overleg), whose role was to construct and "explicitly

formulated vision" from which principles could be derived to evaluate what actually occurred in practice. In 1983 the accounting requirements were adapted to the Fourth Directive of the European Community, effective in 1984.

In 1982 the Council for Annual Reporting (CAR) replaced the TO. CAR reviews accounting principles in practice and gave its opinion as to their acceptability within the framework of the law, determining the criteria for standards acceptable in the economic and social climate. The flexibility of its "guidelines" arises also from the incorporation of the International Accounting Standards Committee (IASC) as well as the opinions of the Enterprise Chamber of the Court of Justice. These guidelines influence financial practices in the Netherlands and are broadly accepted and applied, although they are not mandatory for companies or for auditors. The acceptance of the guidelines is due to the participation of interested parties in CAR, which was established as a broad-based committee with "flexible norms."

In reviewing these developments, the book refers to examples of companies, such as Philips, ensuring the accuracy of the conclusion reached by the authors. This and other features make the book an interesting and informative record of the evolution of improvements in annual financial reporting in the Netherlands. It should be useful to academics as well as practitioners.

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Author Index to Volume 29

Subject Index to Volume 29

INSTRUCTIONS FOR AUTHORS

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3. Text should be typed double spaced on one side of the paper. A 3cm wide margin should be left at both sides of the text, 4cm wide margins at top and bottom of page. There is no maximum length for contributions but authors should write concisely.

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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American Institute of Certified Public Accountants. Accounting Research Bulletin No. 43. New York: AICPA, 1953.
___________. "Financial Statements Restated for General Price Level Changes." Statement of the Accounting Principles Board No. 3. New York: AICPA, 1969.
Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
Revsine, Lawrence. Replacement Cost Accounting. Englewood Cliffs, N.J.: Prentice-Hall, 1973.

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